CrossTalk

May 2026 *Serving Amateur Radio & Our Community For 67 Years* *Issue 67 : 05*

2026 Club Officers

President :	**Jonathan Pearce WB2MNF**
Vice President :	**Ronald Block NR2B**
Treasurer :	**John O'Connell K2QA**
Recording Secretary :	**John Zaruba Jr K2ZA**
Corresponding Secretary :	**Michael Resnick N2WOQ**

Trustees - 4 Year Term

Sheldon Parker K2MEN	**(2023-2026)**
Len Rust W2LJR	**(2024-2027)**
Earl Moore KC2NCH	**(2025-2028)**
Greg Ciraula K3GC	**(2026-2029)**

Directors - 3 Year Term

Al Arrison KB2AYU	**(2024-2026)**	**Frank Romeo N3PUU**	**(2025-2027)**
Bill Price NJ2S	**(2024-2026)**	**Chris Prioli AD2CS**	**(2026-2028)**
Jeffrey Garth WB2ZBN	**(2025-2027)**	**James Wright N2GXJ**	**(2026-2028)**

General Membership Meeting
Wednesday, May 06, 2026 @ 1900 Hours
In-Person & ZOOM : 982 4039 1944, 091084

Tech Saturday Forum
Saturday, May 09, 2026 @ 0900 Hours
W2MMD Clubhouse

License Testing Session
Thursday, May 14, 2026 @ 1900 Hours
W2MMD Clubhouse

Board of Directors Meeting
Wednesday, May 20, 2026 @ 1900 Hours
W2MMD Clubhouse

Dinner @ The W2MMD Clubhouse
Wednesday, May 27, 2026

2026 GCARC Family Picnic
Saturday, May 30, 2026 @ 1100 Hours
Ella Harris Recreation Park

Tuesday AfterNoon 2M Net @ 1200 Hours

Thursday Night 2M Net @ 2000 Hours

Monday & Thursday Night 40M Net @ 1930 Hours
7.165 MHz (+/- 10 kHz)

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Gloucester County Amateur Radio Club
2026 Family Picnic

See map on page 9

Saturday, May 30, 2026

All Club members, spouses and family members are welcome
Ella Harris Recreation Park, Main Pavilion
114 Bridgeton Pike, Mullica Hill, NJ
Behind the Harrison Township Municipal Building
Harrison Township, NJ 08062
1100 - 1400 Hours

We have reserved the Main Pavilion at Ella Harris Recreation Park in Mullica Hill, NJ, from 11:00 AM to 2:00 PM on Saturday, May 30, 2026. Consider this an opportunity, as Club members, for us and our families to "get out of the shack" for a while, to meet each other and socialize a bit in the sunshine of a great outdoor setting!

Plan to arrive at 11:30 so we can get the food set up and ready to serve around noon.

The Club will provide the hamburgers, hot dogs, rolls, soda, water, and a propane grill.

We are asking for donations of side dishes such as potato, macaroni, pasta, and/or green salad, desserts, chips, pretzels, or whatever you would bring to a picnic!

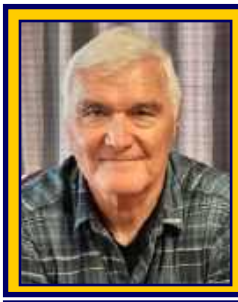
Please provide your own cooler to properly keep the food cold during transport and picnic setup. Please also provide serving bowls and utensils.

** Please park behind and around the Municipal Building. No parking next to the playground! **

Questions? Send an e-mail to picnic@w2mmd.org

We'll post updates to the Club website, and will have a chance to talk some more about the picnic at the upcoming May 6, 2026 General Membership Meeting.

If you would like to donate any side dishes, dessert, etc.
Please go to : https://registration.w2mmd.org/wpregp/gcarc-picnic



President's Letter
Jon Pearce WB2MNF

May 2026

Spring has finally arrived, and with it a burst of activity that introduces a busy season at GCARC. Projects that had been patiently waiting on warm weather are finally within reach, and outdoor activity is high.

Clubhouse Project Update

Frank Romeo N3PUU, **Al Arrison KB2AYU**, and **Earl Moore KC2NCH** have been putting in enormous numbers of hours finishing the grounding project and the VHF tower installation. They've filled in most of the trenches around the Clubhouse, welded the grounding cables to the ground rods, laid pipe for running coax, power, and rotator cables from the towers to the Clubhouse, and installed utility boxes at the tower bases to make the cable connections clean. It's been a massive effort, and the Club owes these guys a real debt of thanks. Frank will be doing a General Membership Meeting presentation later this year to let us all get a full grasp on the enormity and extraordinary workmanship of this project.

WSPR Activities

Several new technology projects are in motion. First, sign-ups for the WSPR Network project station is now closed, with 23 stations ordered from TAPR - giving us good coverage on 40 through 10 meters. The boards have already shipped, and we expect them well before the **May 9, 2026 Tech Saturday Forum** assembly date. That means some participants may have a chance to visit the Clubhouse earlier and get on the air ahead of schedule. We'll let you know when things are ready. (Late note - everything has arrived and we'll start assembly on **Saturday, May 2, 2026**)

The reporting infrastructure is already in place. The propagation summary lives on the **GCARC Skunkworks (https://wp.w2mmd.org/wp/club-activities/wspr-weekly-20m-report)** website with band summaries and per-station drilldowns on the **WSPR project dashboard (https://wspr.wb2mnfai.org)**. Once our stations come online, we'll be able to compare antenna structures and efficiencies, characterize propagation across bands, and sharpen our planning for operating events like Field Day. And ANY WSPR station can join this Club effort - even your home QRP station running WSPR on your WSJT-X software - so get on board with whatever hardware you can configure for this project.

At the Clubhouse we're also testing the QRP Labs 4-band WSPR transmitter, a complex kit that **Chris Prioli AD2CS** assembled. When it's fully operational, this single unit will put spots on 40, 20, 15, and 10 meters from one antenna at the Clubhouse - a clean way to compare propagation across bands with almost every other variable held constant. (Late note - this is operational - results can be seen here : **https://wp.w2mmd.org/wp/w2mmd-wspr-regional-analysis**).

President's Letter - Continued on page 4

President's Letter - Continued from page 3

ISS DATV Reception

Warmer weather finally let us begin work on another long-anticipated project : receiving the DATV signals now being broadcast from the International Space Station. These aren't your grandparents' slow-scan SSTV - they're high-resolution digital transmissions on 2395 MHz, just 5 MHz below the Wi-Fi band, which makes reception more challenging than it might sound.

None of our existing antennas can see signals up there, but **John Zaruba K2ZA** had a 1-meter dish left over from an Oscar-40 installation decades ago that looked like a strong candidate. **Al Arrison KB2AYU** climbed the Skunkworks tower at the south end of the Clubhouse, installed our second Yaesu G-5400 rotator, and mounted the dish. We've already confirmed the setup works by pulling in a 2.4 GHz beacon out of North Jersey so we're hopeful to copy the ISS as well.

Our next steps are configuring the rotator controller to track the ISS, getting DATV decoding software running, and - if Wi-Fi interference proves to be a problem - identifying and installing suitable filters. With any luck, we'll be pulling down live television from the space station within a month or two.

Discovery Dish Inmarsat Reception

Another project that had been waiting on good weather was swapping the Discovery Dish feed horn for one cut for the Inmarsat band. The Inmarsat satellites carry traffic such as ACARS aircraft messages and ship-to-shore data, and our goal is to bring those signals down at the Clubhouse - another interesting technical milestone to add to the Club's list.

STEM Kids Visit The Clubhouse

On Monday, April 20, 2026, twenty students and five parents from the Woodruff Middle School STEM Club visited the Clubhouse for a firsthand look at amateur radio. Helping out were **Ron Block NR2B**, **John Zaruba K2ZA**, **Mike Resnick N2WOQ**, and their teacher **Angela Metzger KE2DRJ**.

We split the group into four stations. Ron worked with his group in the HF room, pulling them into a 40-meter QSO that let several kids get on the mic. John K2ZA demonstrated CW in the main Clubhouse area, letting kids send their names on his keyer. Angela ran a "fox hunt without the fox" outside, with a couple of her 8th graders hiding with HTs as stand-ins for the fox-hunt transmitter (which had, unfortunately, stayed home). I took the fourth group on a tour - lightning protection, towers and antennas, and the VHF and satellite stations.

Beyond the obvious fun, the visit helped us identify students who might be a good fit for the summer STEM Camp session we're planning. The focus will be space communications, a topic rich in science content that we hope will stick with the students long after the camp itself.

Club Picnic

Finally, I hope to see many of you at the **2026 GCARC Family Picnic** on Saturday, May 30, 2026 at **Ella Harris Recreation Park in Mullica Hill**. Please remember to register at : **https://registration.w2mmd.org/wpregp/gcarc-picnic** if you're planning to attend. ***Also, see the map on page 9 on where we have to park.***

73, Jon WB2MNF

Welcome New Club Members :

Paul Molinari N2MVK, a Technician Class from Mount Laurel, NJ.

We are glad to have you as a member of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at :

- **The May 6th General Membership Meeting, either in-person or on ZOOM**
- **The May 9th Tech Saturday Forum @ the W2MMD Clubhouse**
- **The Board of Directors Meeting on May 20th**
- **The Dinner @ The W2MMD Clubhouse on May 27th**
- **The GCARC Family Picnic on May 30th**

We also hope to "SEE" you on the "AIR" on the following nets :

- **Sunday Night Skywarn 2 Meter Net @ 1930 Hours**
- **Sunday Night ARES 2 Meter Net @ 2000 Hours**
- **Tuesday AfterNoon 2 Meter Net @ 1200 Hours**
- **Monday & Thursday Night 40 Meter Nets on 7.165 MHz (+/- 10 kHz) @ 1930 Hours**
- **Thursday Night Rag Chew 2 Meter Net @ 2000 Hours**

All 2 Meter Nets are on our 147.180 MHz (PL 131.8) repeater or on EchoLink W2MMD-R.

ARRL is calling on all radio amateurs and GMRS licensees to join our nationwide grassroots campaign to pass the **Amateur Radio Emergency Preparedness Act**. ARRL has made it very easy to send your letters to Congress. Hams should go to **https://send-a-letter.org/HOA** and GMRS users should go to **https://send-a-letter.org/GMRS**. The letters will automatically be sent to your elected officials encouraging them to support the bipartisan bills. Passage would give amateur radio operators the same rights to install antennas on their property as those enjoyed by users of TV antennas, wireless internet, and flagpoles. Radio clubs should also prepare letters of support, signed by each club officer.

See instructions for clubs (PDF) and a sample letter for clubs (DOCX). For more information about the ARRL campaign to Pass The Bill, visit **www.arrl.org/HOA**. And please share these YouTube videos on your personal social media.

Article Credit : The ARRL Letter for November 6, 2025 - **www.arrl.org**

Current Website Updates : Go to this page to find out the latest changes & updates on our W2MMD Website

https://gloucestercountyarc.weebly.com/current-website-updates.html

So you find our website confusing, can't find anything

I have created a page called "Quick Links"

On this page you will find "Buttons" to some the most popular pages
I will add more as time goes on, but I hope this helps your journey navigating through your Club Website!

https://gloucestercountyarc.weebly.com/quick-links.html

General Membership Meeting

Wednesday, May 06, 2026 @ 1900 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM : Meeting ID : 982 4039 1944; Passcode : 091084
Join ZOOM Meeting Link : https://bit.ly/4s67geS

Go to : https://gloucestercountyarc.weebly.com/2026-content--activities--resources.html to download the ZOOM log-on instructions PDF

Future Proofing ARES

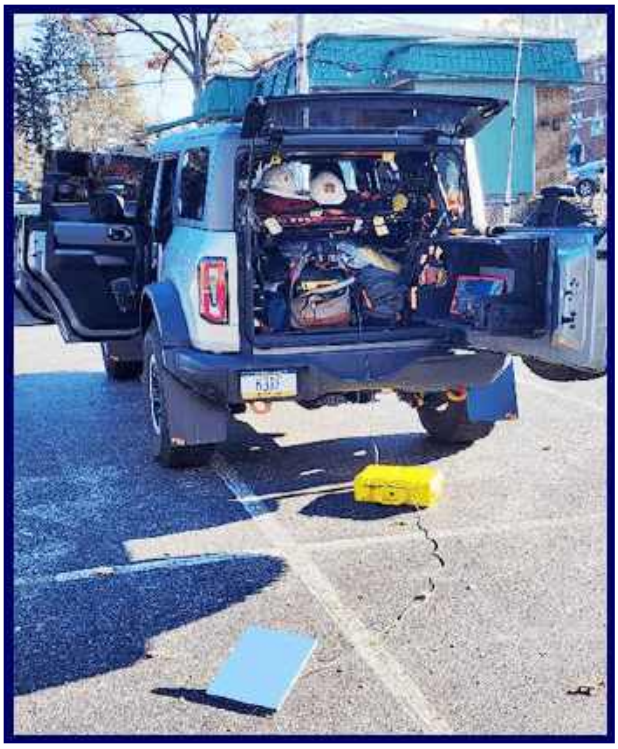
By Robert Famiglio K3RF

Amateur radio's role in emergency response is expanding, and **Bob Famiglio's** presentation at this month's General Membership Meeting takes a clear-eyed look at how operators can modernize their capabilities without losing the strengths that define our service. Drawing on his January and April 2026 QST articles, Bob examines how resilient, portable broadband technologies - most notably Starlink - can be combined with the interoperability frameworks outlined in the **National Interoperability Field Operations Guide (NIFOG : https://www.cisa.gov/sites/default/files/publications/NIFOG%20Ver%201.6.1A.pdf).**

As disaster-response environments grow more complex, served agencies increasingly expect communicators that can bridge traditional Amateur Radio with IP based tools, shared standards, and nationally recognized procedures. Bob will outline practical, field-tested strategies for building hybrid architectures that preserve the reliability of RF while adding the flexibility, bandwidth, and interoperability needed for today's incident operations.

Attendees will learn how hams can :

- **Integrate Starlink (https://starlink.com) and other portable broadband systems into existing go kits**
- **Apply NIFOG standards to improve coordination with emergency managers and partner agencies**
- **Maintain the core strengths of Amateur Radio while expanding technical fluency in modern response tools**
- **Build stations and workflows that enhance readiness, resilience, and agency trust**



A fully equipped Starlink mobile station will be on display, offering participants a firsthand look at how these capabilities can be deployed in the field.

This will be an interesting and informative live presentation.

See you there!

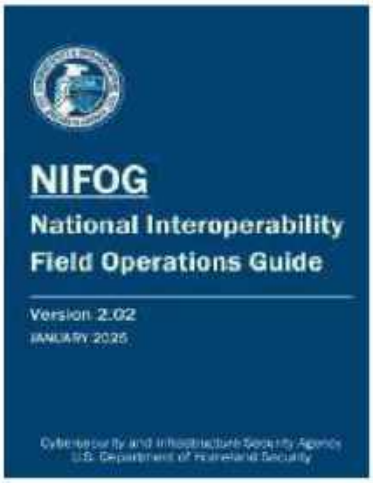
Future-Proofing ARES

Interoperability Skills Every ARES Operator Should Understand

Bob Famiglio, K3RF

During disasters, public safety and federal agencies, non-governmental organizations, and critical-infrastructure entities all operate communications systems within a national interoperability framework. At the center of that framework is the *National Interoperability Field Operations Guide* (*NIFOG*).

The *NIFOG* is published for responders, communications technicians, and radio operators, and it catalogs nationwide interoperability channels across HF, VHF, UHF, 700/800 MHz, federal bands, and other shared resources, outlining standardized procedures, naming conventions, channel priorities, and operational practices used in multi-agency incidents.



The *NIFOG* outlines the framework for national interoperability.

It's paramount that Amateur Radio Emergency Service® (ARES®) operators are familiar with the *NIFOG* during multi-agency responses, particularly wide-area disasters. Understanding the guide helps hams see how agencies communicate, how interoperability is achieved, and where amateur radio fits into the national plan.

Why the *NIFOG* Matters

ARES volunteers are prohibited from transmitting on the *NIFOG* channels, and they can only program them into equipment as receive-only, unless specifically authorized, in writing, by the appropriate authority having jurisdiction. Even so, knowing the structure of the interoperability plans allows trained amateur radio operators to integrate more effectively with served agencies when assistance is requested and additional equipment is offered to trained volunteers to use alongside ham equipment.

In any disaster, amateur radio is only one tool in a much larger communications toolbox. If multiple agencies are involved, responders turn to the interoperability channels defined in the *NIFOG* to find common frequencies to use. This knowledge can transform an ARES volunteer from "someone with a radio" to "a communicator who better understands the operational environment."

Our role is to supplement public safety and other emergency response groups (when requested) and support information flow. Knowledge of the *NIFOG* helps volunteers understand when amateur radio is likely to be used, what gaps it can fill, and how to coordinate effectively with agency communications units.

ARES volunteers who understand the *NIFOG* procedures can integrate more smoothly into an incident command system (ICS) structure. They can assist with logging, message relay, and documentation in ways that align with agency expectations. They can also communicate more effectively with a communications leader and technician personnel, which are defined ICS roles that rely heavily on the *NIFOG* standards.

ARES groups that incorporate *NIFOG* awareness into their training produce operators who are better prepared, more confident, and more valuable to served agencies. Even a basic understanding of the national interoperability plan elevates an operator's ability to contribute meaningfully during a disaster.

More Guide Information

ARRL's contact information and basic amateur radio frequency listings are also found in the *NIFOG*. Free copies of the latest (January 2025) guide are available for download from **www.cisa.gov**, among other public safety, federal agency, non-governmental organization, and critical-infrastructure entity websites. Printed and bound copies are also widely available. Put a copy with your go-kit!

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Tech Saturday Forum

May 09, 2026 @ 0900 Hours

W2MMD Clubhouse

May 2026 Tech Saturday Forum - GCARC WSPR Network Assembly and Configuration Session

The Raspberry Pi computers, TAPR WSPR hats and other materials have arrived, and on Saturday, May 9, 2026 we'll be building WSPR transmitters! Club members and guests who have ordered these units will solder several components onto the filters configuring their units for their choice of frequency bands, and will then calibrate and test them to be sure that they're creating the proper amount of output. We'll also cover some basics of WSPR transmission and the reporting infrastructure that's used to crowdsource the data and discover propagation characteristics from Gloucester County to the rest of the world. Other interested members are welcome to attend and learn about the network.

2026 GCARC Family Picnic
Ella Harris Recreation Park, 114 Bridgeton Pike, Mullica Hill, NJ
Please Park In the Municipal Building Parking Lot
The park is 1 mile north of the Clubhouse

New Members Support Group & Discord Channel

- **Objective : To focus Club resources on the needs of newly licensed members**
- **Supported by "new_members" Discord Channel**

Additional Support :

- **Saturday Morning @ The W2MMD Clubhouse**
- **GCARC@MAILMAN.QTH.NET Club E-mail Reflector**
- **E-Mail President @ w2mmd.org**

April 4, 2026 Tech Saturday Forum

Be A Club Volunteer!

2026 / 2027 Clubhouse Construction Volunteer Projects :

Shed : Build Ramp

Clubhouse :

- **Build Ramp**
- **Replace Interior Front Door**
- **Power Wash Siding**
- **Replace Back Steps**
- **Replace paneling in Main Room**
- **Replace AC in Main & HF rooms**
- **Install drop ceiling in Main Room**

Lightning Protection Project :

- **Complete grounding rod installation around Clubhouse and Towers**

Install Utilities On New Front Parking Lot Pole

Install Antennas On New VHF Towers

GCARC Monthly VE Exam Testing Summary - April 2026

By Chris Prioli AD2CS

The April 2026 GCARC VE session was held on Thursday, 9 April. The VE session was held at the W2MMD Clubhouse and was administered by Volunteer Examiners as listed below, with **Chris Prioli AD2CS** serving as Team Liaison for the event :

- **Mike Harla N2MHO**
- **John O'Connell K2QA**
- **Mike Resnick N2WOQ**
- **Courtney Smith KD2SPJ**

The were two candidates, both of whom sat for their Element 2 (Technician) exams. Both candidates were successful in their endeavors. These candidates were :

- **Richard Coats KD3CZW**, new Technician from Wilmington, DE
- **Andrew McQuiston KD3CZX**, new Technician from Philadelphia, PA

The VE Team proctored the exam session using completely electronic methodologies. This means that the candidates completed the exams online, and that all grading and submissions were done online as well.

The next regularly scheduled VE session will be held on Thursday, 14 May 2026, at 1900 Hours at the W2MMD Clubhouse. The VE team will be using the ExamTools system to its fullest capability, within our current technological means.

It is important that all test candidates going forward will be advised, whenever possible, to pre-register and pre-pay for the exam online. Specifics of that process are explained at : **https://veteam.w2mmd.org**

GCARC VE Team Historical Summary

	Technician Class	General Class	Amateur Extra	Total
2016	18	8	6	32
2017	22	19	4	45
2018	29	23	5	57
2019	16	10	8	34
2020 *	8	4	1	13
2021 *	8	5	1	14
2022	22	15	18	55
2023	20	18	10	48
2024	22	12	6	40
2025	24	14	6	44
2026	4	0	1	5
2027				
2028				
2029				
2030				
Totals	193	128	66	387
	* Pandemic	Period		

Saturday, May 2, 2026

KENTUCKY DERBY

Membership Badges Ready For Pick-Up

They can be picked up at the W2MMD Clubhouse or at the monthly General Membership Meetings

Alex Calabrese WA2ADS
Hadyn Cotton KC3AMM
Dave Danichkin KD2UXC
Jon Davidson KE2DYD
Dan Devlin KC2GYU
Robert Erenburg KD3BGJ
Jim Foster W3JNF
Gary Hewitt N2WHV *
Jim Larkin KA2FFP
Dean Marzocca N2TNN
Frank Parsinitz KD2GSY
Jack Snyder AI2D
Harry Strahlendorf W3DNQ
Marian Yanka KE2GOL

The Clubhouse is open and accessible every Saturday from 0700 until 1600 Hours, and on the third and fourth Wednesday evening of each month as well as the second Thursday evening of each month from about 1700 until 2000 Hours.

The badges can also be picked up at any General Membership Meeting. They will be displayed at the Hospitality Table

If there is an asterisk (*) after your call sign above, your badge is a replacement and has a cost of $5.00 payable to the Club at the time of pickup of the badge.

Club Merchandise from the K2ZA Workshop

Contact John Zaruba Jr K2ZA at k2za@icloud.com

Go To : https://gloucestercountyarc.weebly.com/club-merchandise.html

ADIF Logs Wanted When Operating As W2MMD @ The Clubhouse

By Jim Wright N2GXJ - Contact me via e-mail on Club Roster List

It is a common courtesy in ham radio to be able to QSL 2-way contacts made with other hams. We're pretty good about doing this for our field day contacts made each year, but are falling behind in this for contacts we make from the Clubhouse as W2MMD.

So here is the ask :

If you operate from the Clubhouse as W2MMD (e.g. on HF, UHF/VHF, or on Satellite, at Tech Saturday, or during contests or other), please email me the electronic log entries in ADIF format from the logger program you used for those contacts?

That way, just like I do following field day each year, I can get them uploaded to LOTW and to eQSL to offer the courtesy of an electronic QSL to those who make contact with us as W2MMD here in NJ.

Thank you

Regional (Atlantic & Hudson Divisions) Hamfests & Events

May 02, 2026 : Antietam Radio Association, The Great Hagerstown Hamfest, Maugansville Church, 17904 Binkley Avenue, Maugansville, MD. **www.antietamradio.org**

May 03, 2026 : Warminster Amateur Radio Club, 2026 Annual Hamfest & ARRL Eastern Pennsylvania Section Convention, Bucks County Community College, Lower Bucks Campus, 1304 Veterans Highway, Bristol, PA. **www.wp.k3dn.org/hamfest**

May 03, 2026 : Orange County Amateur Radio Club, Annual Hamfest, Black Rock Fish & Game Club, 5 Pleasant Hill Road, Mountainville, NY. **www.ocarcny.org**

May 09, 2026 : Old Barney Amateur Radio Club, Ham Fest At The Shore, Surf City Volunteer Fire Company, 713 Long Beach Boulevard, Surf City, NJ. **www.obarc.org**

May 16, 2026 : Thousand Islands Repeater Club, T.I. Repeater Club Hamfest/Swapmeet, Depauville Fire Department Banquet Hall, 15191 School Street, Depauville, NY. **www.tirepeaterclub.com**

May 24, 2026 : Maryland FM Association, Memorial Day Tailgate Hamfest, Howard County Fair Grounds, 2210 Fairgrounds Road, West Friendship, MD. **www.marylandfm.org**

May 30, 2026 : East Greenbush Amateur Radio Association, East Greenbush ARA Hamfest, East Greenbush Town Park, 99 Town Park Road, East Greenbush, NY. **www.egara.org**

May 31, 2026 : Splitrock Amateur Radio Association, 2026 North Jersey Tailgate Hamfest, Horseshoe Lake Recreation Complex, 72 Eyland Avenue, Succasunna, NJ. **www.splitrockara.org**

May 15, 16, 17, 2026
Greene County Fairgrounds & Expo Center, Xenia, OH
www.hamvention.org

"Dinner @ The W2MMD Clubhouse"
Wednesday, May 27, 2026 @ 1800 Hours

The Education Connection

By Chris Prioli AD2CS - chris@ad2cs.com
www.ad2cs.com

May 2026

Every now and then, a really great project comes along, one that garners a lot of participation from Club members. Such is the case with the upcoming WSPR transmitter project. At last count, we have twenty-five people signed on to participate in this project.

The build itself is quite simple - there are a grand total of eight through-hole components to be installed - four inductors, and four capacitors. The inductors are three of one value (depending upon band selected) and one of a second value. The capacitors are two of one value and two of a second value. Nothing could be simpler.

The challenge comes in the adjustment of the transistor bias, which controls the drive level. Accidentally setting the bias too high will cause almost instantaneous failure of the lone transistor on the board. Take your time and make this adjustment carefully, being sure ***not*** to exceed an absolute of 60mV (0.060V) bias voltage, which equates to a 60mA (0.060A) bias current, the maximum advised for all bands. In reality, it is recommended to set the bias current closer to 30mA in most cases.

Setting the bias current level too high causes overdriving of the BS170 surface-mount MOSFET that is used in the circuit. Overdriving this transistor will cause rapid overheating and then failure of the transistor, ultimately causing failure of the transmitter to produce any RF output.

The transmitter is constructed as a Pi ***"hat"*** which is meant to sit atop a Raspberry Pi single-board computer. It will work with many Raspberry Pi versions, but ***not*** with the version 5 boards.

Without getting too involved here, the TAPR WSPR transmitter system functions through the creation of harmonic-rich square waves via the Raspberry Pi, and then filtering the square wave output based on the band for which the transmitter is intended. The Raspberry Pi output is a low-power square wave that shifts between four discrete frequencies (4-FSK) at a rate of 1.46 baud. The raw square wave from the Raspberry Pi is too weak and contains too many harmonics for direct transmission. The TAPR WSPR board uses a BS170 MOSFET to amplify this signal to a usable power level, typically around 100 - 200mW.

Because a square wave is rich in odd harmonics (which are illegal to transmit), the signal must pass through a Low Pass Filter (LPF) before reaching the antenna. The LPF, consisting of a specific arrangement of inductors and capacitors whose values differ by band, removes these unwanted high-frequency components, leaving only the fundamental sine wave at the intended amateur radio band frequency.

All in all, this is a simple-to-build and simple-to-implement project that will add ***your*** WSPR data to the accumulated propagation knowledge tracked on **www.wsprnet.org**.

See you next month!

Tuesday AfterNoon Net @ 1200 Hours

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Greg Ciraula K3GC : May 5, 2026
Steve Farney W2SEF : May 12, 2026
Rich Subers W2RHS : May 19, 2026
Jeff Garth WB2ZBN : May 26, 2026

Greg Ciraula K3GC : June 2, 2026
Steve Farney W2SEF : June 9, 2026
Rich Subers W2RHS : June 16, 2026
Jeff Garth WB2ZBN : June 23, 2026
Steve Farney W2SEF : June 30, 2026

Greg Ciraula K3GC : July 7, 2026
Steve Farney W2SEF : July 14, 2026
Rich Subers W2RHS : July 21, 2026
Jeff Garth WB2ZBN : July 28, 2026

Greg Ciraula K3GC : August 4, 2026
Steve Farney W2SEF : August 11, 2026
Rich Subers W2RHS : August 18, 2026
Jeff Garth WB2ZBN : August 25, 2026

If you would like to be a Net Control Station for this net, please contact Steve Farney W2SEF

Thursday Night Rag Chew Net @ 2000 Hours

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Steve Farney W2SEF : May 7, 2026
Mary Delemarre W2TDS : May 14, 2026
Gary Mirkin WA3SVW : May 21, 2026
Steve Farney W2SEF : May 28, 2026

Jeff Garth WB2ZBN : June 4, 2026
Mary Delemarre W2TDS : June 11, 2026
Gary Mirkin WA3SVW : June 18, 2026
Steve Farney W2SEF : June 25, 2026

Jeff Garth WB2ZBN : July 2, 2026
Mary Delemarre W2TDS : July 9, 2026
Gary Mirkin WA3SVW : July 16, 2026
Steve Farney W2SEF : July 23, 2026
Jeff Garth WB2ZBN : July 30, 2026

Jeff Garth WB2ZBN : August 6, 2026
Mary Delemarre W2TDS : August 13, 2026
Gary Mirkin WA3SVW : August 20, 2026
Steve Farney W2SEF : August 27, 2026

If you would like to be a Net Control Station for this net, please contact Jeff Garth WB2ZBN

Need a ride to a Club meeting, event, or activity?

Just send a message to the Club's e-mail reflector asking if a member can pick you up

GCARC <*at*> MAILMAN <*dot*> QTH <*dot*> NET

All Club members have access to this FREE e-mail service

Gloucester County Skywarn Net

The Gloucester County Skywarn Net is held every Sunday @ 1930 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All Are Welcome To Participate
Net Control Station : Jeff Garth WB2ZBN

Gloucester County ARES Net

The Gloucester County ARES Net is held every Sunday @ 2000 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All are welcome to participate

Net Control Stations :
Al Arrison KB2AYU; Steve Farney W2SEF; Jeff Garth WB2ZBN; Bob Keogh KD2NEC; Angela Metzger KE2DRJ; Craig Metzger KE2GNU; Gary Mirkin WA3SVW

Gary Mirkin WA3SVW : May 3, 2026
Steve Farney W2SEF : May 10, 2026
Al Arrison KB2AYU : May 17, 2026
Craig Metzger KE2GNU : May 24, 2026
Angela Metzger KE2DRJ : May 31, 2026

Jeff Garth WB2ZBN : July 5, 2026
Gary Mirkin WA3SVW : July 12, 2026
Al Arrison KB2AYU : July 19, 2026
Craig Metzger KE2GNU : July 26, 2026

Jeff Garth WB2ZBN : June 7, 2026
Bob Keogh KD2NEC : June 14, 2026
Angela Metzger KE2DRJ : June 21, 2026
Steve Farney W2SEF : June 28, 2026

Bob Keogh KD2NEC : August 2, 2026
Steve Farney W2SEF : August 9, 2026
Angela Metzger KE2DRJ : August 16, 2026
Steve Farney W2SEF : August 23, 2026
Craig Metzger KE2GNU : August 30, 2026

Anyone who is interested in joining the Gloucester County ARES Team, is invited to contact Steve Farney W2SEF at sef001@comcast.net

Monday & Thursday Night 40 Meter Net @ 1930 Hours
7.165 MHz (+ /- 10 kHz)
NCS : Jim Clark KA2OSV

ARRL Learning Center
https://learn.arrl.org

Discover how to make Amateur Radio your own.

Online courses from the ARRL Learning Center provide ARRL members with additional instruction and training for getting on the air, emergency communications, and electronics and technology

Setting up virgin Windows 11 O/S to access WSJT-X (v 3.0.0)

By Steve Farney W2SEF

HI Folks,

WSJT-X v 3.0.0 works on my new Windows 11 computer.

If someone is installing WSJT-X (any version) on a new Windows 11 platform (not upgraded from an earlier version of Windows), one needs to do what I highlighted below. This drove me nuts (not a long trip) for over two weeks. Once I asked the correct question on the net, I received the correct answer.

So, if anyone hears of another ham having this problem, this is the fix that should help. Btw-- it was one Windows 11 switch I had to turn on for it to work. Bah Humbug to Microsoft (hi, hi).

> ***To fix the "Sound Input Error" in WSJT-X on Windows 11, primarily enable microphone privacy permissions, set audio sample rates to 48 kHz, and update/reinstall USB audio codec drivers for your radio interface. Also, ensure WSJT-X is using the correct USB audio device in settings and check for active Radio Frequency (RF) interference causing USB disconnects.***
>
> ***Key Troubleshooting Steps : Enable Microphone Privacy (Most Likely Fix) : Windows 11 often blocks access to USB audio devices. Go to Settings > Privacy & Security > Microphone and ensure "Microphone access" is enabled, and that apps are allowed to access it.***

What's happening in the ARRL Southern New Jersey Section??
Subscribe to the ARRL SNJ Section Groups.IO
https://groups.io/g/ARRLSouthernNewJerseySection

New QRZ Award: USA250 (The 250th Anniversary of the United States of America)

In 2026, the United States of America will commemorate a historic milestone — the **250th anniversary of its founding.** To honor this once-in-a-lifetime event, QRZ is proud to introduce a special commemorative operating award: **USA 250**.

The **USA 250 Award** is available to amateur radio operators **worldwide** and is granted upon the successful confirmation of **250 two-way contacts with US-based amateur radio stations** made during the 2026 calendar year.

Award Requirements

To earn the USA 250 Award, operators must:

- Make **250 confirmed QSOs** with **US-based amateur radio stations** (operating from DXCC entities 291, 6, 110, 9, 103, 202 or 285)
- Contacts may be made on **any band** and **any mode,** Transmission may not make use of a relay, repeater or internet linking.
- Licensed operators in **any country** are eligible
- QSOs must take place **during the 2026 calendar year only**
- The operating window opens at **00:00 UTC on January 1, 2026**
- All contacts must be **confirmed on QRZ Logbook** (imported LoTW confirmations accepted)
- The official rules can be found here **https://www.qrz.com/page/qrz-operating-awards**

Operating Period

January 1, 2026 00:00:00 – December 31, 2026 23:59:59 (UTC)

At The Repair Bench…

A monthly column describing a recent repair bench event.

By Chris Prioli AD2CS - chris@ad2cs.com - www.ad2cs.com

Icom IC-746 PRO Transceiver - May 2026

A while ago, one of my regular customers who is now a GCARC member brought to me his Icom IC-746 PRO with a complaint of lower-than-normal RF output. This is a common HF plus 6-meters plus 144 MHz desktop transceiver, a very popular radio type that has had its share of known problems and issues. However, the only thing amiss in his unit was the apparent loss of some output power. Unfortunately, it is unknown what the baseline power outputs had been, as no old records of any testing of the radio exist. This left us with the position of needing to test the radio's RF outputs and make a decision what to do based on the test results.

Figure 1 : Icom IC-746 PRO Transceiver

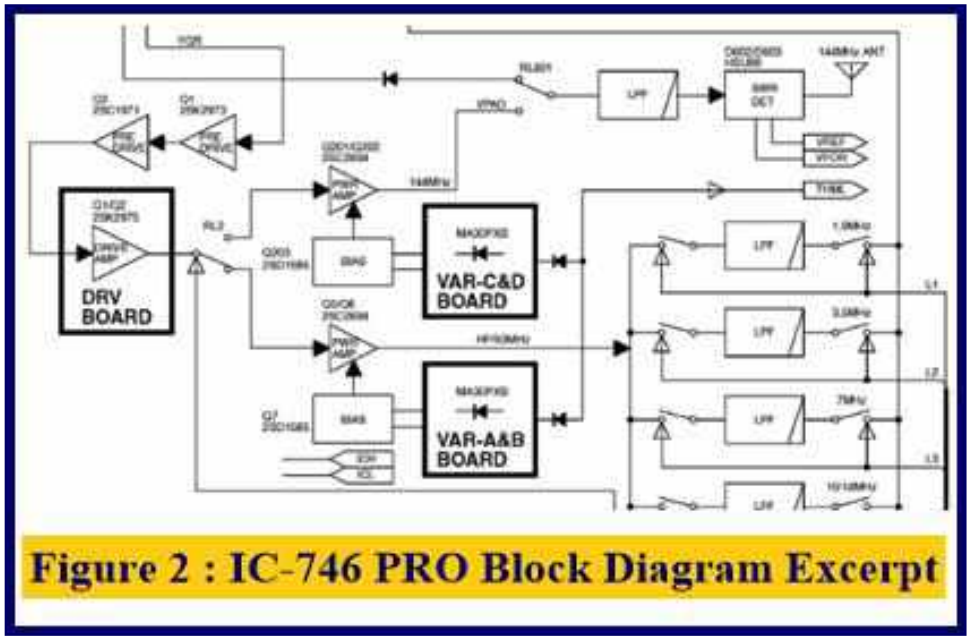


Figure 2 : IC-746 PRO Block Diagram Excerpt

With the radio on the bench in the shop, I set up the trusty Bird 43 and a dummy load, and proceeded to test the radio in its various modes. What I found was a maximum output of about 75 watts ±5 watts across all of the nominal 100-watt modes. While this was clearly less than rated power, it was by no means a dead unit. The next testing to be done was to measure voltages at key points and to trace the RF signal through the unit.

The Icom IC-746 PRO (**Figure 1**) uses an MMIC identified as IC151, a µPC1678G amplifier known as the ***YGR amplifier*** to prepare the RF signal for handling by the PA board. On the PA board, the YGR RF signal passes through a 2SK2973 N-channel enhancement-mode MOSFET pre-driver and then though a 2SC1971 pre-driver before going into the push-pull combination of two 2SK2975 MOSFETS that serve as the output driver. After that, the RF signal path splits, depending upon the frequency selected. The HF and 50MHz path goes through one push-pull pair of 2SC2694 transistors, while the 144MHz signal path is passed through a second push-pull pair of 2SC2694 devices. Thus, there are actually four ***"final"*** transistors in this unit. For each ***"final"*** pair, bias control is handled by a separate 2SD1585 transistor. All of this can be seen in the block diagram excerpt in **Figure 2**.

At The Repair Bench - Continued on page 19

At The Repair Bench - Continued from page 18

The RF signal into the power amplifier (PA) section was normal, so there was no problem with signal genesis. That left the PA as a possible problem location. Moving on to voltage tests throughout the PA section, I found that all of the transistor operating voltages were within normal limits, though both of the bias voltage values were a bit low. Tracing of the RF signal through the PA showed respectable gain at every stage.

At this point, I called the owner and discussed my findings with him. I explained that although every transistor was working and gain was present at every stage, it was not quite up to snuff. In my opinion, the gain was not quite what it should have been. I further explained that although I could spend his money and replace the transistors that were not exhibiting as much gain as I would have liked, there was also no guarantee that brand new transistors would produce significantly more gain. In other words, there would most likely be very little improvement for the amount of money that it would cost to replace the driver and PA transistors. We decided to align the transceiver, adjusting the bias voltages as a part of that process, and to see what that would get us in terms of improvement. The owner also asked me to install a common IC-746 modification that I promote, which involves the installation of heat sinks to certain high failure rate devices in the amplifier chain. We will discuss this more later.

I performed a full alignment of the set, including adjustment of the bias voltages. This produced some improvement in the output performance, with the maximum RF level across all modes now being between 85 and 89 watts, depending on the output frequency. I considered this to be an acceptable outcome for the age of the radio and the minimal investment involved.

Figure 3 : IC151 Location On RF UNIT Board

I spent a few minutes doing some cleaning of the various controls and switches, using DeoxIT® Gold (G100L) as the cleaning agent. An immediate improvement in the audio quality was noted, in that there had been a bit of scratchy crackling and static in the audio as the audio gain control was advanced. While this had not been mentioned by the owner, I noticed it during testing, which is what led me to do the cleaning in the first place.

That brings us to the modifications, comprised of adding heat sinks to two very susceptible devices. These devices are the YGR amplifier MMIC, the µPC1678G device labeled as IC151 on the RF UNIT board, and the 2SC1971 pre-driver transistor Q2 on the PA board. Historically, there is a high failure rate for these two devices in normal use of the IC-746 PRO transceivers.

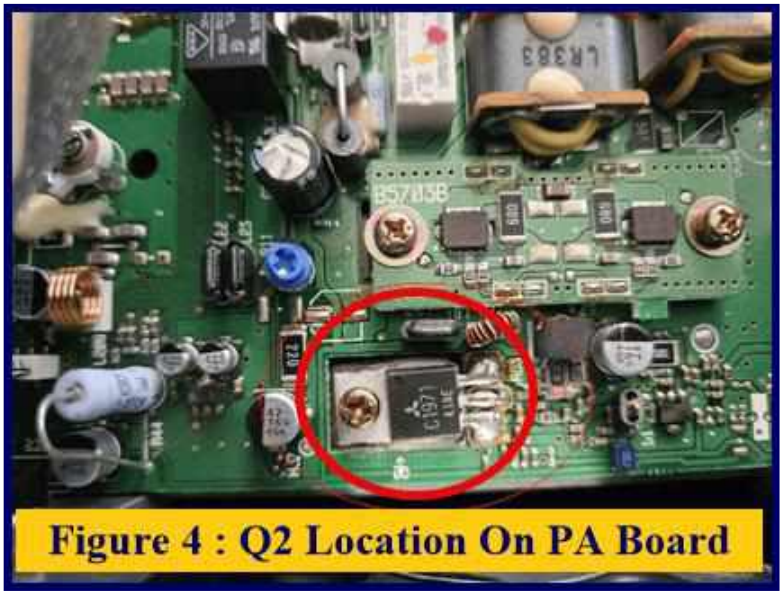


Figure 4 : Q2 Location On PA Board

In the case of the **YGR amplifier (Figure 3)**, it is a case of the amplifier being on the underside of the radio so to speak, as the RF UNIT board is located at the bottom rear of the radio.

At The Repair Bench - Continued on page 20

At The Repair Bench - Continued from page 19

The puts the MMIC in such a position that the considerable heat generated in it as the RF signal passes through has nowhere to go except through the IC and up into the chassis above it, but there is no cooling provision made for this IC.

In the case of the pre-driver transistor (**Figure 4**), its heat is forced to move in an unnatural downward direction into the chassis through the transistor mounting tab. This device is mounted near the upper portion of the radio, on the PA board which is in the top front portion of the chassis. Apart from its securement to the chassis underneath the device, no additional cooling provision is made.

Figure 5 : IC151 With Heatsink Applied

Figure 6 : Q2 With Heatsink Applied

With both of these devices, I modify the radio by adding a machined copper heatsink to the semiconductor device substrate, using a thermally-conductive mounting tape from 3M. The µPC1678G gets a 6mm square heatsink, while the 2SC1971 gets one that is slightly larger at 9mm square. While this is not a perfect cure, as it still does not correct the direction of heat flow as related to the IC151 MMIC, it is surely better than the way the factory left these devices. To date, I have not had a repeat failure of these devices in any radio to which I have applied these modifications.

This repair was made at the lowest possible cost, and while the radio still did not reach its full advertised output power, it would have cost more than the owner wanted to spend on it to make any significant changes to the output power. It would have meant replacement of the 2SK2975 driver MOSFETS in addition to probably replacing the four 2SC2694 power amplifier transistors. None of these devices showed the full gain advertised in their datasheets, though they all had considerable gain.

Sometimes, a decision has to be made as to how much is worth spending on an older unit to get acceptable performance out of it. If money is no object, then the sky is the limit. But… who can really say that money is no object, and truly mean it?

See you next month…

Gloucester County Amateur Radio Club
YouTube Channel
https://www.youtube.com/@W2MMD

Department of Defense Armed Forces Day Cross-Band Test
Saturday, May 9, 2026

This annual event is open to all licensed amateur radio operators and will not impact any public or private communications. For more than 50 years, military and amateur stations have taken part in this event, which is an interoperability exercise between hobbyist and government radio stations.

More information can be found at : https://bit.ly/3L6dnwz

A *Club* that goes *above* and *beyond* for their communities and for Amateur Radio, is what defines a *Special Service Club (SSC).*

They are the leaders in their Amateur Radio communities who provide active training classes, publicity programs, and actively pursue technical projects and operating activities.

GCARC has been an ARRL Affiliated Club since February 4, 1960 and an SSC since April 2010.

GCARC VE Team : 2026 License Exam Monthly Summary

	Technician Class		General Class		Amateur Extra Class	
	Monthly	YTD	Monthly	YTD	Monthly	YTD
January	1	1	0	0	0	0
February	0	1	0	0	0	0
March	1	2	0	0	1	1
April	2	4	0	0	0	1
May						
June						
July						
August						
September						
October						
November						
December						

Club Member DMR IDs

Club Member	DMR ID
W2MMD Clubhouse	3198604
Michael Beach KE2HRH	3222203
Jim Blose KD2TAT	3211628
Cole Bonner KE2GYA	3221097
Joshua Boylan KE2FSC	3216140
Alex Calabrese WA2ADS	3100583
Chuck Capasso WB2PGE	3169781
Todd Cecilio KA2YNT	3169458
Anthony Cerami N2OAC	3202759
Mark Clark N3QMJ	3102110
Norm Coltri K2NRC	3183851
Holden Correia-Fisher KD2JPV	3104911
Mike Covaleski N2MMC	3134855
Walter Coward WX2E	3166863
Doug Dersch KD2VQA	3193630
Daniel Devlin KC2GYU	3210633
Carmen DiCamillo KA3WYV	3221262
Thomas Distelcamp Sr KC2GYC	3110869
Glenn Dougherty N2YIO	3161836
Adam Duncan W3DUN	3202691
Herb Dyer KT2Y	3134907
Harry Elwell AD5TT	3128498
Misael Fernandez Jr KE2EBL	3214756
Joseph Fisher KC2TN	3134720
James Foster W3JNF	3142117
Karl Frank W2KBF	3146716
Joseph Gadoury N2JJG (KE2AKT)	3196520
Glen Guenther KE2BUO	3202079
Melissa Guenther KE2BWZ	3202496
Gary Hewitt N2WHV	3134654
Paul Kaplan N2FOB	3134796
Chuck Lanard KD2EIB	3134298
Darren Malone KD2ALQ	3215227
Dean Marzocca N2TNN	3206232
Bill McCourt WF1L	3152173

Club Member	DMR ID
Scott McNutt N3ADP	3189434
Gary Mirkin WA3SVW	3165494
Paul Molinari N2MVK	3221792
Earl Moore KC2NCH	3210340
John Murrow KD2NHK	1134122
John Newman WB4YLM	3213273
Phil Nunzio WA3RGY	3134336
John O'Connell K2QA	3110610
Robert Pantazes W2ARP	3157208
Sheldon Parker K2MEN	3214037
Jonathan Pearce WB2MNF	3163415
Michael Pecorini K2MRP	3132996
Michael Pentimall KC3VTF	3203601
John Price III KD2QYC	3123583
Chris Prioli AD2CS	3195449
Nicholas Reigel KE2DCD	3128983
Michael Resnick N2WOQ	3215856
William Robinson KD2ANM	3134257
Frank Romeo N3PUU	3134935
Terry Rossi N2LQH	3183681
Len Rust III W2LJR	3186225
Len Rust IV K2LJR	3196243
Dave Sheppard W2PAX	3112666
Cory Sickles WA3UVV	1142052
James Simeone KC2AOF	3134848
Stan Slachetka WA2JRZ	3213904
Court Smith KD2SPJ	3186243
Jackson Snyder AI2D	3164371
Rich Subers W2RHS	3204316
David Swartout KC3TGB	3198155
Anthony Vece W2AJV	3214797
Matt Wilson K2MFW	3134607
Bill Wood KD2OSJ	3197459
Jim Wright N2GXJ	3215168
John Zaruba Jr K2ZA	3134331
New Entries As Of 04/19/2026	

Gloucester County ARES News : May 2026

By Steven Farney W2SEF - sef001@comcast.net
Gloucester County Emergency Coordinator

Look for ARES Training Programs and Opportunities in Future CrossTalks

ARES Resources (Updated as of January 2026)

ARRL ARES Registration Form July 2004: https://bit.ly/3Ae2pCf
ARES Manual March 2015 [PDF] : https://bit.ly/3iUhJLQ
ARES Field Resources Manual August 2019 [PDF] : https://bit.ly/4qDmOWb
ARES Standardized Training Plan Task Book July 2024 Ver. 3.0 [Fillable PDF] : https://bit.ly/4dToEes
ARES Standardized Training Plan Task Book July 2024 [Word] : https://bit.ly/4heLXSU
ARRL ARES Plan July 2025 : https://bit.ly/4pOZwwl
ARRL Emergency Communications Training : http://bit.ly/3J2gMMf
FEMA 2023 National Preparedness Report : https://bit.ly/3YrPWnY
Southern New Jersey Section Emergency Operations Plan 2023.PDF : https://bit.ly/3YqMdHb
ARRL ARES Monthly Newsletters : https://bit.ly/408OV5d

The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable but is not a requirement for membership.

If you are interested in learning more about the Gloucester County ARES Program or becoming an ARES member, please contact Steve Farney W2SEF (sef001@comcast.net).

International
FireFighters' Day
May 4th
International Firefighters' Day is observed each year on 4th May. On this date you are invited to remember the past firefighters who have died while serving our community or dedicated their lives to protecting the safety of us all. At the same time, we can show our support and appreciation to the firefighters world wide who continue to protect us so well throughout the year.
On the first Sunday in May at noon please Sound Off in respect of past firefighters.

2024-2028 Element 4 Amateur Extra Class License Question Quiz

This month we finish up with Subelement E5 Electrical Principles (4 exam questions - 4 groups).
(***Answers on last page***)

E5D01
What is the result of conductor skin effect?
A. Resistance increases as frequency increases because RF current flows closer to the surface
B. Resistance decreases as frequency increases because electron mobility increases
C. Resistance increases as temperature increases because of the change in thermal coefficient
D. Resistance decreases as temperature increases because of the change in thermal coefficient

E5D02
Why is it important to keep lead lengths short for components used in circuits for VHF and above?
A. To increase the thermal time constant
B. To minimize inductive reactance
C. To maintain component lifetime
D. All these choices are correct

E5D03
What is the phase relationship between current and voltage for reactive power?
A. They are out of phase
B. They are in phase
C. They are 90 degrees out of phase
D. They are 45 degrees out of phase

E5D04
Why are short connections used at microwave frequencies?
A. To increase neutralizing resistance
B. To reduce phase shift along the connection
C. To increase compensating capacitance
D. To reduce noise figure

E5D05
What parasitic characteristic causes electrolytic capacitors to be unsuitable for use at RF?
A. Skin effect
B. Shunt capacitance
C. Inductance
D. Dielectric leakage

E5D06
What parasitic characteristic creates an inductor's self-resonance?
A. Skin effect
B. Dielectric loss
C. Coupling
D. Inter-turn capacitance

Element 4 Amateur Extra Class Quiz - Continued on page 25

Element 4 Amateur Extra Class Quiz - Continued from page 24

E5D07
What combines to create the self-resonance of a component?
A. The component's resistance and reactance
B. The component's nominal and parasitic reactance
C. The component's inductance and capacitance
D. The component's electrical length and impedance

E5D08
What is the primary cause of loss in film capacitors at RF?
A. Inductance
B. Dielectric loss
C. Self-discharge
D. Skin effect

E5D09
What happens to reactive power in ideal inductors and capacitors?
A. It is dissipated as heat in the circuit
B. Energy is stored in magnetic or electric fields, but power is not dissipated
C. It is canceled by Coulomb forces in the capacitor and inductor
D. It is dissipated in the formation of inductive and capacitive fields

E5D10
As a conductor's diameter increases, what is the effect on its electrical length?
A. Thickness has no effect on electrical length
B. It varies randomly
C. It decreases
D. It increases

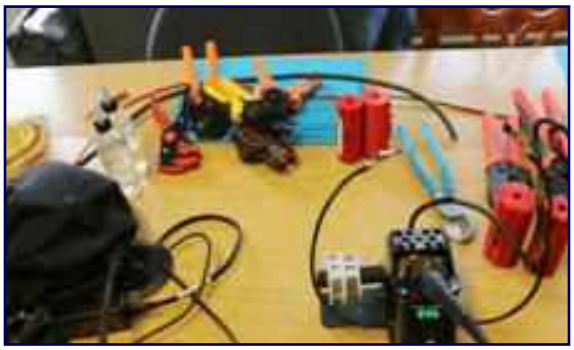
E5D11
How much real power is consumed in a circuit consisting of a 100-ohm resistor in series with a 100-ohm inductive reactance drawing 1 ampere?
A. 70.7 watts
B. 100 watts
C. 141.4 watts
D. 200 watts

E5D12
What is reactive power?
A. Power consumed in circuit Q
B. Power consumed by an inductor's wire resistance
C. The power consumed in inductors and capacitors
D. Wattless, nonproductive power

ARRL Field Day 2026
Saturday, June 27, 2026 - Sunday, June 28, 2026

April 4, 2026 Tech Saturday Forum

By Mike Resnick N2WOQ



This month's Tech Saturday Forum was a program demonstrating how to install PL-259 connectors to an RG-8 type of coax, plus Anderson Powerpole connectors and ring crimp-on connectors to make a power cable for a radio. **Chris Prioli AD2CS** started the session by showing a portion of a You-Tube video from DX Engineering. The participants were shown the various tools that were necessary to accomplish the tasks at hand.

One of the participants in the program is utilizing the DX Engineering cutting tool. The device will cut the center conduction insulation and the ground braid to the proper lengths to match up with the PL259 connector properly. You need a good grip, but the results are well worth the effort.

Chris is pictured here crimping the ferrule to the braid portion of the connector. The next step is to solder the center conductor to the connector for a flawless finish! Powerpole connectors were introduced to the group. This connector allows many cable configurations to suit your needs.

Craig Metzger KE2GNU is shown here checking his cable assembly for any short or open condition. The cable passed all tests!

This was a great Tech Saturday!

We all have to thank Chris for a very informative and important activity as the information and skills will be useful to us all!

See you next month?

W2MMD

www.facebook.com/W2MMD

"The big thing about being in a club and being a "Ham" is to help each other when there is a need "
- W2SEF

Volunteer Monitor Program Report - January 2026

The Volunteer Monitor (VM) Program is a joint initiative between ARRL and the FCC to enhance compliance in the Amateur Radio Service. This is the January 2026 activity report of the VM Program.

- An operator in Wisconsin was issued an Advisory Notice concerning a beacon on a 60-meter frequency not authorized to US operators.
- A Technician operator in California was issued an Advisory Notice for 20-meter FT8 operation, a band on which Technicians have no privileges.
- An operator in Washington was issued an Advisory Notice for repeatedly transmitting "free DV digital software" on 40 meters and refusing to vacate the frequency when requested.
- An operator in New York was issued an Advisory Notice for interference with the Jamaica Emergency Net on 20 meters.
- An operator in New York was issued an Advisory Notice for deliberate interference with amateur operators on 20 meters and for using CB equipment on amateur frequencies.
- An operator in Chesterfield, Virginia, received a commendation for providing assistance to new licensees (one 11 years old), and donating radio equipment and installation and operation assistance to get the new licensees on 10 meters.
- There was one FCC meeting, and the FCC accepted HF cases in North Carolina, Kentucky, Georgia, and Missouri for enforcement sanctions.
- A new automated FT8 monitoring system was implemented in January and is undergoing testing. It will randomly monitor FT8 and FT4 frequencies to ensure that the operators hold the proper license class for the band they are using.

The totals for December 2025 monitoring were 1,370 hours on HF frequencies, 1,097 hours on VHF frequencies and above, and 42 other monitoring hours, for a total of 2,509 hours.

In 2025, Volunteer Monitors reported 17,642 hours of monitoring on HF frequencies, and 23,436 hours on VHF frequencies and above, for a total of 41,078 hours for the year.

Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth K4ZDH

North American Shortwave Association
NASWA SWL Fest
May 1-2, 2026
Fort Washington, PA
www.swlfest.com

The New Jersey Knights of Columbus Amateur Radio Club (NJKCARC) will be sponsoring the Annual Special Event Station for the New Jersey Knights of Columbus 130th State Convention on May 8-18, 2026, at the Wildwood Convention Center.

https://nj2kc.org/events

100 Milliwatts To Australia
The W2MMD WSPR Beacon : From A Bag Of Parts To Six Continents In 24 Hours

By Jon Pearce WB2MNF

It arrived in a flat cardboard box from China - a couple of bare circuit boards, several small zip-lock bags of electronic components, and a set of instructions that assumed you already knew what you were doing. The QRP Labs Ultimate3S WSPR transmitter kit is not for the faint of heart. There is no enclosure, no pre-wound coils, no plug-and-play convenience. What you get is potential. What you make of it depends entirely on your skill, your patience, and how well you read a schematic.

Enter **Chris Prioli AD2CS**. Chris took the kit home on a Saturday afternoon and by Sunday night he had a working five-band WSPR transmitter. That might sound straightforward until you consider what was involved : populating two circuit boards with dozens of surface-mount and through-hole components, winding no fewer than fifteen toroid coils for the low-pass filter modules - five separate filter boards, three toroids each, every one wound by hand, turn by turn, to precise specifications. Each filter must pass its intended frequency cleanly while suppressing harmonics well enough to satisfy FCC Part 97 requirements. Chris wound them all at his kitchen table, checked each one, and plugged them into the relay-switched filter board that lets the transmitter hop between bands automatically.

He also installed the GPS receiver module that gives the transmitter its sense of time - critical for WSPR, where transmissions must begin within one second of an even UTC minute or they simply vanish into the noise. Chris added an SMA connector on the back panel for the GPS antenna, a nice professional touch that makes the external GPS antenna easy to connect and disconnect. When he brought the completed unit to the Clubhouse, it was a work of art.

The antenna took a different kind of effort. We ordered a 65-foot end-fed wire antenna from Amazon - nothing exotic, just a long wire with a 49:1 matching transformer on one end. We ran it from the Skunkworks tower across the parking lot to the light pole at the far end, feeding it with 50 feet of RG-8X coax. First measurements with the VNA showed it was too long; the resonant frequencies were all below where we needed them. So we shortened it. Then shortened it again. About four feet of trimming later, the VNA showed less than 2:1 SWR on 40, 20, 15, and 10 meters. Thirty meters was another story - 8:1 SWR, a significant mismatch - but at 100 milliwatts, even a badly matched antenna won't damage anything. We decided to try it anyway.

We powered up the transmitter, confirmed roughly 100 milliwatts of output on each band with a wattmeter, verified that the signal looked clean on a spectrum analyzer, and waited for spots to appear on WSPRnet. And waited. And waited.

Nothing.

This began a troubleshooting session that stretched deep into the night. We set up WSJT-X on a laptop connected to an SDR receiver and confirmed that we could decode our own signal locally - proof that the WSPR encoding, timing, and modulation were all correct. The packets were properly formed. The callsign W2MMD was embedded correctly. The grid square FM29jr was right. But no station anywhere in the world was decoding us.

The first clue came from the SDR waterfall display. When we zoomed in on the transmitted signal, it wasn't where it was supposed to be. WSPR signals need to land within a very specific 200 Hertz-wide slice of each band.

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100 Milliwatts To Australia - Continued from page 28

Ours was more than a kilohertz off - completely outside the window where any receiving station would be listening. Every WSPR receiver in the world was tuned to the right frequency. We were transmitting to an empty room.

The root cause turned out to be subtle. Our Si5351A synthesizer module - the chip that generates the actual RF signal - had a 25 MHz temperature-compensated crystal oscillator installed instead of the standard 27 MHz crystal that the QRP Labs manual assumes. The reference frequency parameter in the firmware was set to the correct value for a 25 MHz oscillator, but the interaction between this non-standard reference and the GPS calibration routine was causing problems. The GPS calibration would measure the crystal frequency accurately, calculate a correction, and apply it - but the resulting output frequencies were systematically offset on every band. The calibration was doing exactly what it was designed to do, and it was making things worse.

The solution was counterintuitive : we disabled the GPS frequency calibration entirely and applied manual frequency corrections to each band individually. We kept the GPS for timing - it still synchronizes our transmissions to UTC with sub-second accuracy - but we told the firmware to stop trying to correct the oscillator frequency. Then, band by band, we measured the actual output frequency on the SDR, compared it to where it should be, calculated the offset, and adjusted the programmed frequency to compensate. Each band needed a different correction. We iterated until every band landed within the WSPR decode window.

At 1820 UTC on April 23rd, the first spot appeared on WSPRnet. K3FEF, 177 kilometers away in FN21, decoded W2MMD on 40 meters. Within minutes, more spots rolled in - N8GA in Ohio, N9EAT in Iowa, stations up and down the East Coast. We switched to monitoring 20 meters. More spots. Then 15 meters, and stations in Europe started appearing: DK4RW in Germany, HB9VQQ in Switzerland, OE9GHV in Austria, all decoding our 100-milliwatt signal at distances exceeding 6,500 kilometers. Then 10 meters opened, and PU1JSV in Brazil - 7,685 kilometers away - decoded us.

And then, on 20 meters, VK5ARG in South Australia pulled our signal out of the noise at 16,965 kilometers. Nearly halfway around the planet. One tenth of a watt into a wire strung across a parking lot.

Within the first 4 hours of operation, W2MMD accumulated 3,905 spots from 271 unique receiving stations across six continents. Forty meters proved to be the workhorse, producing 2,265 spots from 155 receivers with reliable coverage day and night. Twenty meters emerged as the surprise performer - 834 spots reaching as far as Australia on long-path propagation, making it the undisputed DX band for the station. Fifteen meters reached Brazil (PY4XC, 7,464 km) and deep into Europe. Ten meters, despite reduced output power at 28 MHz due to synthesizer rolloff, reached Brazil at 7,685 km. Even 30 meters, fighting that 8:1 antenna mismatch and radiating perhaps 30 effective milliwatts, reached Austria - OE9GHV at 6,558 km - proving that WSPR can do extraordinary things with almost nothing.

The station hit Europe on four of the five bands. It reached South America on three. Africa on two. And Australia - on a single 20-meter long-path spot that probably shouldn't have been possible but was.

The W2MMD beacon is now running continuously from the Clubhouse, transmitting two-minute beacons sequentially on each of the five bands. Our AI-driven analysis server monitors the spot data and will generate daily propagation reports published to the Skunkworks website at skunkworks.w2mmd.org. We're currently building out an analytics dashboard to visualize these results - propagation by band, by time of day, by world region - giving GCARC members real insight into what the ionosphere is doing from our geographic location.

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100 Milliwatts To Australia - Continued from page 29

This is where the W2MMD beacon becomes more than a novelty. Because the transmitter location, antenna, output power, and transmission schedule are completely fixed, every variation in the spot data reflects propagation conditions alone - not operator choices, not antenna differences, not power levels. When W2MMD reaches Europe on 15 meters on a Tuesday afternoon but not on a Wednesday, that's the ionosphere talking, not equipment. That consistency is what makes the data scientifically useful, and it's exactly the kind of controlled baseline that we need for meaningful propagation research.

We already have about 40 stations signed up to participate in the GCARC WSPR Network, each running their own beacon. The Clubhouse station complements the network by providing that fixed reference point - a known quantity against which individual member stations can compare their own results. If your home station isn't reaching Europe on 15 meters but W2MMD is, the problem isn't the band - it's your antenna.

Chris built something remarkable from a bag of parts and a stack of toroids. The rest of us figured out how to make it talk to the world. And now it sits quietly in the Clubhouse, transmitting its 100-milliwatt whisper into the ether every two minutes, and stations from New Jersey to South Australia are listening.

Revolutionary War POTA Special Event

By Stan Slachetka WA2JRZ

GCARC is organizing a New Jersey revolutionary war site POTA event to recognize the 250th anniversary of our nation's founding. Over the course of the coming year GCARC is planning to activate several parks in New Jersey that have a direct connection or relationship to the Revolutionary War.

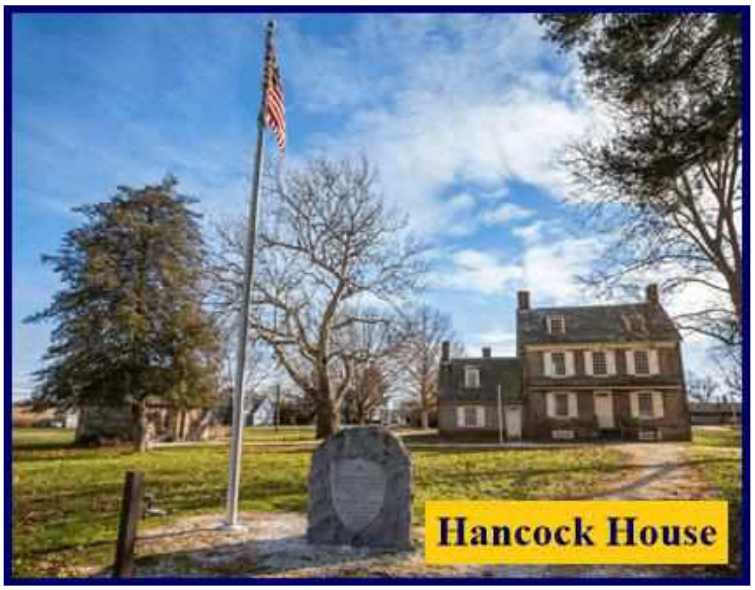
Welcome to May! Days are getting longer and warmer (for the most part) and our Revolutionary War Parks on the Air activity is taking shape, with definitive dates and interesting and unique park activations and special event stations planned from August through October. Here are the current line-up and dates :

- **July 18, 2026 :** POTA Presentation and Prep Meeting. This be at the Clubhouse and will include an introduction to POTA, as well as the planning and organization for the upcoming park activations, including equipment needed, antennas, logistics, and important technical issues and relevant park regulations to consider when doing an activation.
- **August 1, 2026 :** Historic Hancock House in Hancock's Bridge, Salem County.
- **September 26 and 27, 2026 :** Fort Mott in Pennsville, NJ. This will be in conjunction with the park's annual Historic Soldier's Weekend sponsored by the Fort Mott Park Association.
- **October 2026 :** Batsto Village in Wharton State Forest. This will be on a Saturday after our hamfest. We will provide a specific date when it becomes available.

Unfortunately, we will not be activating the Red Bank Battlefield Park. The Gloucester County Parks and Recreation Department appreciated our interest, but they let us know that given the high volume of requests and their inability to accommodate them equitably they do not permit outside groups to host events in County-owned parks. All events held within the parks are managed solely by County Parks and Recreation staff. While disappointing, we have three great park activations remaining.

Some details regarding each of the parks and our activations :

Hancock House Historic Site



The house was built in 1734 by William & Sarah Hancock, a prominent Salem County Quaker family. It was the scene of a British-led massacre during the American Revolution.

- This is not an official POTA site, but we have been in touch with POTA about either a special POTA park identifier for the day of our activation or possibly having the Hancock House assigned a new permanent park identifier. We will have more about that once we hear back from POTA.
- We have applied for a Special Use Permit for our activation on August 1 and are hoping to hear back on that shortly.
- The staff at the Hancock House are planning special demonstrations and tours in connection with our activation. The Hancock House will be open to the public during our activation and members of the public will be welcome to view our operation and ask questions and learn about ham radio and POTA.

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Fort Mott

22nd Annual Event
HISTORIC SOLDIERS WEEKEND
SEPTEMBER 26 & 27, 2026
Fort Mott State Park • Pennsville, NJ
454 Fort Mott Road • Pennsville, NJ 08070
WHERE HISTORY COMES ALIVE!

Fort Mott was designed after the American Civil War as part of a three-fort coastal defense system for the Delaware River. Fort Mott is not a Revolutionary War site, but it is a POTA site and proximate to naval engagements in the Delaware that took place during the Revolution.

Fort Mott Bunker

- We are confirmed for the Historic Soldiers' Weekend on September 26 and 27. This is a two-day event, and we can operate both days. More information on the Historic Soldier's Weekend can be found at **https://fortmott.org/historic-soldiers-weekend** and at **https://soldiersweekend.com**
- GCARC has been approved for a special event call sign for the Historic Soldiers Weekend. It will be W2M, recognizing Fort Mott.
- We will be operating from one of the bunkers in the park. There is space for operating positions both at the base and at the top of the bunker, which will place us in a central and highly visible location within the Historic Soldiers' Weekend. We will be checking out the bunker prior to the event to scope out the locations for our stations and antennas.
- To fit into the Historic Soldiers Weekend, we will include information about the history of ham radio with possibly a few photographs, handouts, or some classic gear depending on what would be the most interesting and practical. Suggestions on that would be appreciated.
- We will be coordinating with the park staff at Fort Mott to prepare a special QSL card for the event.

Batsto Village in Wharton State Forest

Batsto Village is a historic site in Wharton State Forest in the Pinelands and is known for its beauty and its historical significance. Batsto Iron Works was founded in 1766, and during the Revolutionary War, manufactured supplies for the Continental Army.

- Once a date for the activation has been selected, we will file a Special Use Permit with the NJDEP. As this will not be until October, there should be more than enough time to submit a permit application and get the requisite approval.

Revolutionary War POTA Special Event - Continued on page 33

Revolutionary War POTA Special Event - Continued from page 32

Revolutionary War POTA Discord Channel

For more information, check out the Revolutionary War POTA channel in our ***Club Discord Group (# rev-war-activity***). We are posting relevant information about the planning and implementation of our Revolutionary War POTA activity on this channel. If you are not a Discord member, you can sign up at **Discord (https://discord.com)** Group Chat That's All Fun & Games. The Club's discord group is at **https://discord.gg/rkgfxnKi6e**. Sign up and check it out.

If You're Interested

If you are interested in helping organize the event or are simply interested in participating in any of the POTA activations, you can leave a post on the Revolutionary War POTA Discord channel or contact me directly at ***stanplans@gmail.com***. We can also connect at an upcoming Club meeting.

I hope that you can participate and I look forward to seeing you at the Club or on our Revolutionary War POTA channel on Discord.

More information about POTA is available at Parks On The Air (https://parksontheair.com) program for amateur radio. You can also purchase a copy of the ARRL's excellent book on POTA titled appropriately "The Parks On The Air Book." It's available on the League's website at The Parks On The Air Book (https://home.arrl.org/action/Store/Product-Details/productId/2013464221) or at other online sources or ham radio stores. There are also many interesting YouTube videos online that highlight POTA activations. Also, check out our POTA channel on the Club's Discord group (# pota-activation), to see pictures of our Club members' recent POTA activations.

DAs & DITs

>> The Club regrets the passing of **Thomas S Litle Sr AB2YG**. Tom became a Club member in 2007. He was 88 years old. Obituary : **https://www.legacy.com/us/obituaries/name/thomas-litle-obituary?id=61240108**

Club member Bill Szkromiuk W4WCS wrote :

"Heavenly Father, we thank you for the service and sacrifice of this veteran. They have fought the good fight, finished their course, and stood watch over our nation. Now, Lord, we say : ***You are relieved of your post****. May you find eternal peace in the presence of the Commander-in-Chief. Amen".*

>> Get well to **Rich Subers W2RHS** recovering from recent medical issues.

>> Get well to **Mary Delemarre W2TDS** recovering from another surgery on the same knee.

>> ITU Corporation will acquire Hy-Gain and Cushcraft from MFJ Enterprises and open up a manufacturing facility in Indiana : **https://www.lintonnews.com/itu-corporation-re-purposes-linton-armory-facility-to-house-iconic-amateur-radio-manufacturing-free-article**

W2MMD For Radio Field Day : June 27 - 28, 2026

By Jim Wright N2GXJ

The wait is almost over! It's just over a month now until the greatest on-air event of the year; ARRL's Radio Field Day! As those who are familiar with Field Day can attest, Field Day is quite the event. Always the fourth weekend in June, this North American event brings together thousands of crazy hams like us on-air across the U.S. and Canada. Being part practice for emergency communications, part public relations, part informal contest, part educational opportunity, part campout, part picnic, part socializing, and a big part fun, there's something in this event for everyone. Learning by doing as we challenge ourselves in this around-the-clock 24-hour premier amateur radio exercise, many consider this the highlight of their entire radio year.

Your Club hopes to go in big again for it this year, with off-grid power, temporary antennas, and multiple radios operating simultaneously on different bands and modes set up in the fields around our Clubhouse. To pull this off, we volunteer and organize around appointed roles with delegated responsibilities to manage the complex logistics. These roles and responsibilities include :

- **Field Day Chairperson :** Leads the planning and coordination
- **Radio Chairs/Band Captains :** Responsible for planning, setup, operation, and teardown of individual radios assigned for specific bands, modes, and bonus point opportunities (of which there are many)
- **Culinary Service Coordinator :** Manages the culinary staff volunteers and on-site food preparations for participants
- **Public Relations Promotion and Outreach Coordinators :** Arrange for visits by invited elected officials and served agency representatives, advertises our event on social media, and manages an on-site public relations table allowing this to be an open house to showcase amateur radio to the public as a national resource
- **Educational Activity Coordinator :** Runs a bonus participatory educational activity during field day
- **Designated Safety Officer :** With designated on-site assistants, responsible for on-site identification and mitigation of safety risks during our temporary outdoor radio operations from setup through tear down, and compliance with the ARRL Field Day safety checklist
- **Log Coordinator :** Collect and electronically submit all station logs and bonus evidence for our final claimed score to the ARRL for post event processing

I'm pleased to announce that many of our band captains and coordinators from last year have volunteered to return in their role again for this year. Thank you! But there are some key positions and band-slot openings still available that we need to fill, if you can help out. For example, we have the position of Get-On-The-Air station coach and radio chair available, along with several band-modes still available, including 10 meters, if you want to try and run your own radio. ***Please see the list on the next page***, and contact me directly as soon as possible, so we can coordinate and reserve you a spot on the field!

Interested in helping score some QSO points for your Club by operating? Radio chairs are your point of contact. Reach out to one or more of the radio chairs directly and they'll coordinate with you to get on their operating schedule. Either way, reserve the date! Even if not planning on operating, we invite everyone who can to come on out for a few hours on Saturday afternoon, just to say "hi" and see what all is going on!

For those not able to make it out to our group field day site, that's OK. You can still participate in this year's field day. You can use your own callsign from your own location. After it is over, you can submit your log as your own entry under your own callsign to ARRL. And when they ask for your affiliated club as part of the submission, name "Gloucester Co ARC" for your score to be included as part of our Club's aggregated field day score.

This is your invitation. Please, won't you join in?

Version 4/14/2026			
https://gloucestercountyarc.weebly.com/2026-field-day.html			
BAND	MODE	RADIO CHAIR (Contact)	
160 Meter	all modes	AVAILABLE	
80 Meter	Phone	AVAILABLE	
80 Meter	CW	Darrell Neron, AB2E	
80 Meter	Digital	Darrell Neron, AB2E* can cover	
40 Meter	Phone	Bill Price, NJ2S	
40 Meter	CW	Sheldon Parker, K2MEN	
40 Meter	Digital	Melissa Guenther, KE2BWZ	
20 Meter	Phone	Chris Prioli, AD2CS	
20 Meter	CW	Tony Starr, K3TS	
20 Meter	Digital	Eric Morris, N2BRJ	
15 Meter	Phone	Greg Ciraula, K3GC	
15 Meter	CW	Darrell Neron, AB2E	
15 Meter	Digital	Darrell Neron, AB2E* can cover	
10 Meter	all modes	AVAILABLE	
6 Meter	all modes	AVAILABLE	
2 Meter	all modes	Vinnie Sallustio, N4NYY	
70 CM	all modes	AVAILABLE	
GOTA	all modes	AVAILABLE	
SATELLITE	all modes	Jon Pearce, WB2MNF	
		* if still open, can also cover	

Sunday, May 10, 2026

DoD Stations Crossband - Saturday, May 9, 2026

By Jim Wright N2GXJ

We're always up for a radio challenge, aren't we? Well, here's one for you to try. Announced at : **https://www.dodmars.org/mars-comex-information-website/armed-forces-day**, there is an upcoming opportunity on May 9 for Amateur Radio operators like us to make cross band radio contacts with military radio stations in an interoperability exercise between hobbyist and government radio stations.

If you've never tried this before, it is worth it, just to better practice how to properly set up your radio for unusual operating conditions, such as this, where you need to operate "split", where you are listening on one frequency, and transmitting on another.

The way this works is that the military radio transmits on their frequency which is outside of the ham band, and you listen there for them to tell you where in the ham band they are listening for your response. You "split" your radio so that your transmission is in the ham band where they are listening, while you listen to them where they are outside of the ham band. Make sense?

For example (from that web link), let's look at the Pentagon, callsign "WAR". First unusual thing to note is that callsign "WAR" does not resemble an amateur radio callsign! That's ok. That's the callsign we are hunting for. The table shows that one of the frequencies they may be transmitting on is 7.305 kHz in USB, a frequency which is outside of our 40 meter ham band. Here in NJ, with short skip based on the distances, we should be able to hear them on that frequency. So it is a good one to try. The next unusual thing to note is that they say USB even though is 7 MHz. On 7 MHz frequencies, we usually tune to listen for LSB. If you listen there for them calling CQ for Armed Forces Day crossband test, and you hear them, expect to hear them telling you where in the ham bands (presumably in the General portion of 40 meters, and in lower sideband) they will be listening for your response. Split your radio accordingly, and with some luck, you'll be able to make the contact. This might be easier if you have a pan adapter with waterfall display that can show some of these listed frequencies that are outside of the normal ham bands to see the activity that might be there, but tuning around using the frequencies listed at the website might also be good enough. Get the idea?

If you are successful, and wish to document your contact with a QSL card, there's a link at the web page to use to complete a request form. Good luck to all that try!

There is a new website for the Gloucester County Amateur Radio Club Volunteer Examiner Team. Everything you need to know about getting your ham license or upgrading your license can be found on this website. Pass It Around!

https://veteam.w2mmd.org

From The Help Desk - May 2026

By Chris Prioli AD2CS - chris@ad2cs.com - www.ad2cs.com

Note : This is an ongoing series of related articles that will each take a look at some facet of radio selection, installation, or operation as suggested by actual questions received from Club members or other amateur operators.

Q : "I am confused about exactly how to use a manual antenna tuner with my HF radio setup. I have heard many conflicting procedures, and seen different methods on different online videos. Can you explain the proper procedure for adjusting a manual antenna tuner?"

A : Understanding how to properly adjust an antenna tuner requires that the user first understand just what the tuner is meant to accomplish, and then further understand that while there are many different approaches to the process, there is really no clear-cut right or wrong procedure to adjusting the tuner. The end goal is the thing that really matters.

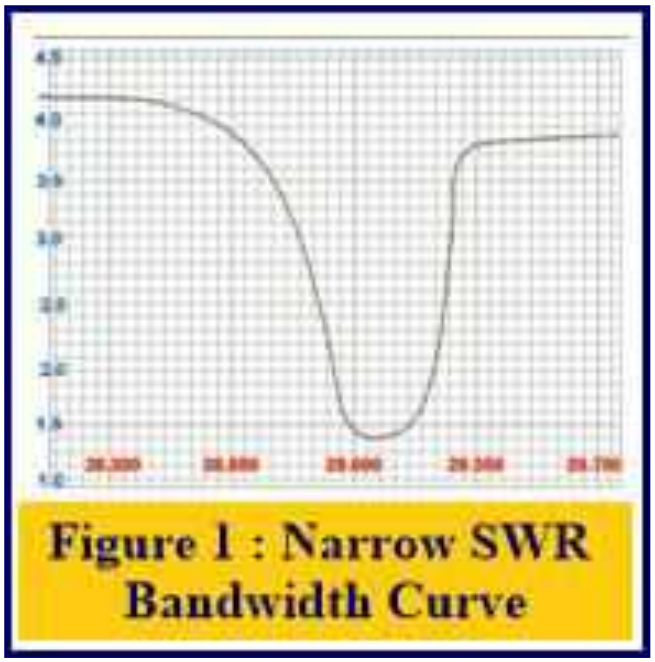

Figure 1 : Narrow SWR Bandwidth Curve

The basic intent of an antenna tuner is to make an antenna that is resonant at one (and only one) specific frequency appear to be as close to resonance at the various other frequencies at which the radio system is operated as is possible. While it is a truth that any antenna is resonant at only one fixed frequency, how well that antenna will perform at other frequencies above or below the resonant frequency will usually depend upon the ***SWR bandwidth*** of the antenna system. An antenna system with a very narrow antenna bandwidth will fall off rapidly in performance on either side of its resonant frequency. Conversely, an antenna with a wide SWR bandwidth will maintain a much more acceptable level of performance through a greater variation from the resonant frequency. An antenna tuner simply artificially extends that SWR bandwidth to include the frequency to which the radio is tuned at the time of adjustment of the antenna tuner.

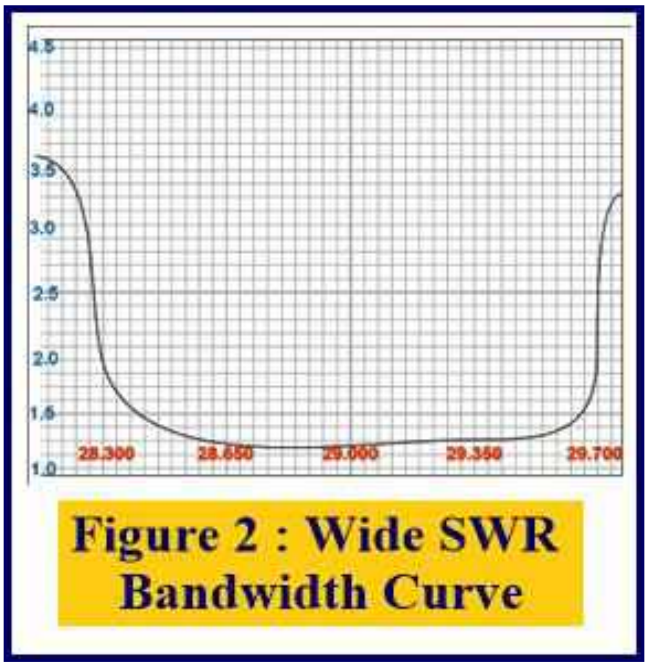

Figure 2 : Wide SWR Bandwidth Curve

Another point that must be considered is just how much mismatch you are willing to accept in an antenna system, As we all know by now, a perfect match between the radio and the antenna system would show a ***standing-wave ratio*** or ***SWR*** of 1:1. What this means is that for a radio with a fifty-ohm output impedance, the input impedance of the antenna system is also right at fifty ohms. This is almost never the case - and really should not be most of the time, based on the physical installation conditions of the antenna. However, any reported SWR greater than a one-to-one match indicates a certain amount of mismatch loss in the antenna system.

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Note that this loss is not the only loss in the antenna system, as the feedline itself also presents a certain predictable amount of loss. Feedline loss is dependent upon three basic factors : 1) the feedline type, 2) the feedline length, and 3) the operating frequency. Feedline loss is given by the cable manufacturers as a certain value in decibels per one-hundred feet of feedline length at a given frequency. The point here is that the feedline losses are not related to nor are they changed by changes in reported SWR. Instead, the feedline losses are cumulative to the SWR losses.

So… how much loss is actually imparted by a given SWR value? Look at it this way. A 1.0:1 match results in 100% of the radio's output RF power being transferred into the antenna system. However, a 1.1:1 match results in a 0.2366% loss, a 1.2:1 match gives us a loss of 0.826% of the output RF power, and with a 1.5:1 match, we get a 4% power loss. All of those values are generally considered to be acceptable, though the lower the numeric match is, the better. On the other hand, a 2.0:1 match yields a whopping 11.1% power loss. Of course, it goes up from there.

What exactly does SWR measure or indicate then? Simply put, the standing wave ratio is the ratio of transmitted output power in watts to the power level in watts reflected from the antenna system back to the transmitter.

Note too that there is another peculiarity to SWR measurement. For example, there are two scenarios that both result in a 2:1 SWR. If the transmitter output impedance is fifty ohms, an antenna system input impedance of either twenty-five ohms or one-hundred ohms will result in a 2:1 SWR match. This is because SWR, when it is ***not*** a perfect 1:1 ratio, is ***always*** reported with the antecedent as a value greater than one, and the consequent as a unity value, or a value of one. Thus, either way, we get a 2:1 ratio from the impedance pairs of fifty ohms and twenty-five ohms, which is naturally a 2:1 ratio, or fifty ohms and one-hundred ohms, which is naturally a 1:2 ratio, but as an SWR value is expressed as a 2:1 value. Again, the antecedent, or ***"first"*** number is always greater than the consequent, or ***"second"*** number, when it is not a 1:1 match.

The next thing that must be understood is what happens to the reflected power once it enters the feedline after being reflected by the mis-matched antenna. Remember what I said about feedline loss? Well, it works both ways. The reflected power will make the reverse trip up the feedline towards the transmitter, where it will again be reflected back down the feedline towards the antenna. This will occur repeatedly until the reflected power has all been dissipated by the ohmic resistance of the feedline - or in other words by the feedline loss. Each trip through the feedline consumes a certain percentage of the power, until it is all gone, ***having been converted to heat in the feedline***.

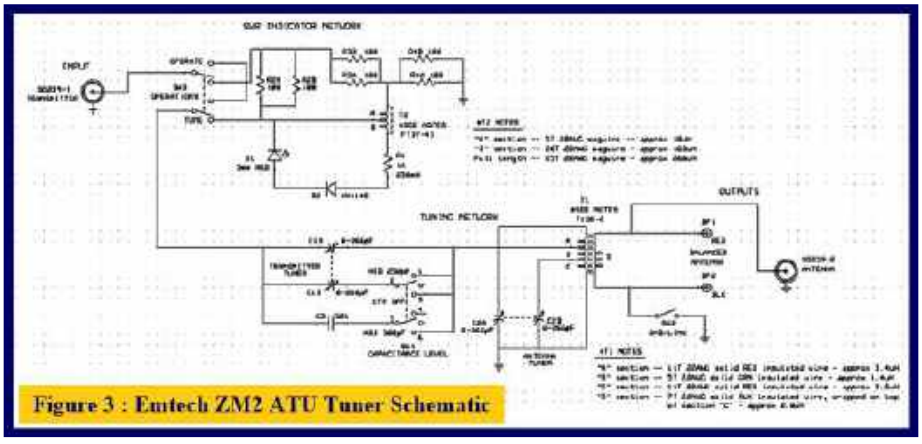

Figure 3 : Emtech ZM2 ATU Tuner Schematic

OK - let's move on to the antenna tuner itself. Antenna tuners are made with various architectures, which will directly affect the number of controls to be manipulated on the front panel of the tuner unit. For example, the **Emtech ZM-2 ATU tuner (Figure 3)** uses a single toroid with a complex winding system as its inductor, and it uses two air-gap variable dual capacitors as the tuning controls. Its architecture is basically a CL/C ***"L"*** filter, having a series capacitor and inductor and a second shunt capacitor. This is a QRP tuner, meant strictly for low-power systems.

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Another example is the **MFJ-941 Versa-Tuner**, whose schematic is shown in **Figure 4**. This tuner uses a slightly different arrangement of two air-gap variable capacitors and a step-selectable coil as the inductor. In this case, the capacitors are both in series, and the inductor is in shunt, forming a CLC ***"T"*** filter.

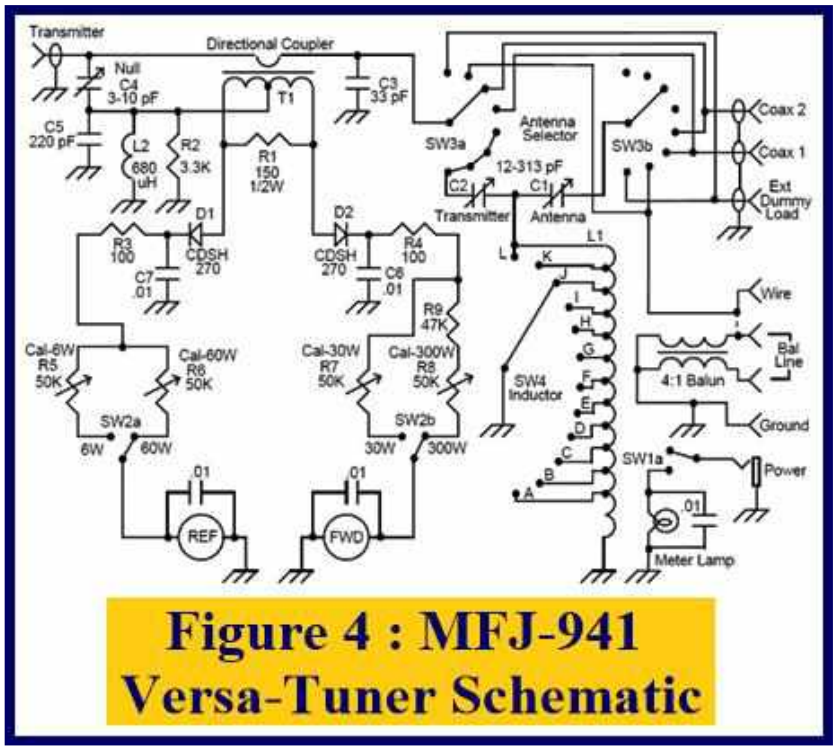

Figure 4 : MFJ-941 Versa-Tuner Schematic

I could go on and show other approaches, especially as related to the auto-tuner types, but my point is sufficiently made already. With multiple architectures and circuit designs, and with different control arrangements, how can there possibly be one single procedure for tuning these devices?

The first step in adjusting your manual antenna tuner is to determine what the indicated forward power is like when you have as close to a 1:1 SWR as is possible, and this is best done at a low power setting - as low as your particular radio will adjust is fine. In some cases that will be five watts, but in others, like some Alinco models, it is ten watts. Whatever your lowest power setting is, set the radio to that output RF power level, and set the radio to a carrier-type of output. In most cases, this may well be the CW mode. Tune the set to the desired output frequency. Finally, place the SWR meter directly in line after the transmitter, and connect the feedline to a fifty-ohm ***resistive*** dummy load. Perform any calibration steps that your SWR meter calls for. Then, trigger the RF output into the dummy load and note both the forward and the reflected power levels while also noting the indicated SWR. When the SWR and power meters are integrated into the antenna tuner, often as a single meter, this is a bit easier as it is often just a matter of setting the proper output selection and then setting the meter function to SWR to read the standing-wave ratio, or to POWER to read the indicated power levels. Remember that in the case of a dual-needle (or ***cross-needle***) meter, all three levels are read at once. One needle indicates the forward power, the opposite needle indicates the reflected power, and the point where the two needles cross each other indicates the SWR.

OK - you now have a baseline reading to start with. You know that your radio had RF output, and you know what power level to expect as you tune further. Now, select (or connect to) the antenna output for the antenna that you want to tune. Then, if your antenna tuner includes an inductor control, select the lowest inductance level to start with. Next, alternating between the two capacitor controls, make small adjustments in the capacitor mesh and note the indicated SWR when you trigger the RF output. Do this quickly so as not to be tuning excessively on the air. If you cannot adjust the SWR to an acceptable low value, change the inductance selector position by one step and repeat the capacitor manipulation, again alternating back and forth between the two capacitors, making ***small*** adjustments each time. Small adjustment increments are important, as with a large capacitor change, you can tune right through the optimal position and never know that you did so.

Repeat this entire process until you achieve the lowest SWR possible. Then, once you have reached an acceptable SWR match for that frequency, do yourself a favor and record the specific inductor and capacitor control positions that resulted in that match. Over time, if you do this each time you tune to a new frequency, you will develop a table of control positions that will allow you to very rapidly tune the system for a given frequency. It is for this reason that the inductor positions and the capacitor dial ranges have incremental markings.

From The Help Desk - Continued on page 40

From The Help Desk - Continued from page 39

They really do not mean anything other than to give the user a means of quickly repeating a tuned position that was determined earlier. With time and experience, you will develop the skill to quickly and accurately tune the system for any frequency that you choose to use.

If your particular antenna tuner does not, for example, have an inductor control like the Emtech ZM2 ATU mentioned earlier, it is simply a matter of alternating capacitor adjustments until you reach the desired SWR value. That particular tuner actually incorporates a ***"tuned"*** indicator in the form of an LED that illuminates when a low SWR value is reached.

OK - so what do you do when (not ***"if"***) you cannot achieve a sufficiently low SWR with which you are comfortable? At some point this is very likely to occur, and with frequent occurrences for certain types of antennas. For example, what happens when that ice storm hits and it pulls down one side of your wire dipole? Or, what happens when that pesky squirrel or chipmunk chews right through your feedline coaxial cable? Or, how about when the ice load and/or repetitive wind action on your dipole stretches the wire to some unusually long length? All of these events will show up as variations in the SWR attainable with your system. The fact of this matter is that when you cannot achieve the expected results, look for ***something*** about your antenna system to have changed. Similarly, when the control positions that once worked for a given frequency no longer do so, once again look for a physical change in the antenna system.

I hope that this has given you some insight into the workings and operation of common antenna tuners as used with typical HF radios. The bottom line is that there is no real ***"one size fits all"*** method to antenna tuner operation - but it really doesn't matter - so long as you ultimately attain the lowest SWR value that you can get.

Jersey String Band Update Report

By Glenn Dougherty N2YIO

Recap from April :

- On Sunday, April 12, 2026, the Band took part in the serenade for Quaker City String Bands who first place in the 2026 Mummers Parade.
- April 18, 2026, the Band marched in the 11th Annual Ocean City NJ Doo Dah Parade.

Coming up in May, the Band has two parades for Memorial Day :

- Saturday May 15, 2026, they will take part in the Pennsville Memorial Day Parade.
- Monday, May 25, 2026, Memorial Day, they will be in the Glassboro Memorial Day Parade.
- Saturday, May 30, 2026, they will take part in the Mummers Along Haddon Ave Parade in Haddonfield.

Coming up on June 13, 2026, the Band has two events :

- In the morning they will travel to Stafford NJ for a parade.
- Then they travel down to Wildwood to take part in the String Band Association fundraiser, The Luau on Seaport Pier in North Wildwood.

On Sunday, June 14, 2026, they help out the Virtua Hospital with their Run with the Docs 5K Run.

On Saturday, June 27, 2026, the Band will travel to Frackville Pa for it's 150th Anniversary Parade.

Well that is all I have for right now. I will add our dates for our Ocean City NJ Boardwalk Parades in the next issue.

Gloucester County Amateur Radio Club
General Membership Meeting Minutes
Wednesday, April 01, 2026

Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF with the Pledge of Allegiance to the Flag

Attendance :

- **In-person : 43**
- **Via Zoom : 17**

Visitors :

- **Ken Botterbrodt K2WB**
- **Pete Greene N2LVI**
- **Bob Famiglio K3RF (ZOOM)**
- **Gary Halbe N3EMY (ZOOM)**
- **Tim Duffy K3LR (ZOOM)**
- **Joe DeMarco KC2SGV (ZOOM)**

New Members :

- **Michael Beach KE2HRH, Maple Shade, NJ**
- **Russell Stevenson KE2HVQ, Sewell, NJ**

Upcoming Club Events & Activities :

- Tech Saturday Forum - April 4, 2026 Connector Installation Class
  - Topic : Back to Basics - Installing coaxial, power pole, and other RF connectors
  - Session is sold out at 16 registered participants
  - Members interested in a future session should contact Chris
- Fox Hunt - Sunday, April 19, 2026
  - Time : 1:00-2:00 PM
  - **Al Arrison KB2AYU** will be hiding the fox this round
  - Check in on the repeater before going out
- License Classes
  - Classes begin April 6 - Previously announced over the past four months
- License testing : Thursday, April 9, 2026
- Directors Meeting : Wednesday, April 15, 2026
  - Open to all members who wishes to observe Club operations and discussions
- Clubhouse Dinner - Wednesday, April 22, 2026
  - Approximately 6:00 PM at the Clubhouse; food from Marinos
- Club Picnic - Saturday, May 30, 2026
  - Location : Ella Harris Recreation Park, 1 mile north of the Clubhouse on Route 77
  - Across from ShopRite
  - Format similar to last year : bring a side dish; Club provides burgers, hot dogs, and sodas
  - Volunteers needed to help cook - contact **Frank Romeo N3PUU**

April 2026 General Membership Meeting Minutes - Continued on page 42

- Club Nets
  - Tuesday Noon Rag Chew Net on the 147.180 repeater and EchoLink
  - Monday & Thursday Night 40 Meter Net - 7:30 PM - 7.165 MHz (+/- 10 kHz)
  - Thursday Night Rag Chew Net on the 147.180 repeater and EchoLink
  - Sunday Night : Skywarn Net and ARES Net on the 147.180 repeater and EchoLink

Upcoming General Membership Programs :

- April 1, 2026 : **Tim Duffy K3LR** : CEO of DX Engineering - Presentation on his station
- May 6, 2026 : **Bob Famiglio K3RF** : ARES - Future of amateur radio emergency services
- June 3, 2026 : **Jim Wilson K5ND** : Meteor Scatter - Getting on the air and how it works
- July 1, 2026 : **Pizza Night**
- August 5, 2026 : Open
- September 2, 2026 : **Brian Callahan WB2BA** : AI and Amateur Radio
- October 7, 2026 : **Frank Romeo N3PUU** : Modern SDR on a Budget

Joint Operating Event - SJRA Club QSO Party : June 20, 2026 0000 UTC to June 21, 2026 2359 UTC

- **Ken Botterbrodt K2WB** from the South Jersey Radio Association presented a joint operating event proposed to coincide with the weekend before Field Day. Key details :
  - Event name : Club QSO Party (**www.clubqsoparty.org**)
  - Duration : 48 hours, Friday night through Sunday night
  - Club stations sign using their callsign plus club age (e.g., W2MMD/67 for GCARC at 67 years old)
  - K2AA members will operate from home signing K2AA/110 (110 years old)
  - Exchange : Your callsign and membership class (club member or non-member)
  - Scoring : Club members worth 5 points each; non-club-members worth 3 points
  - Every registered club station worked is worth 100 points
  - Currently 8 registered clubs, including K6AA from Los Angeles, CA
  - EchoLink and DMR contacts are permitted
  - N1MM template support will be available; rules still being finalized
  - **Jim Wright N2GXJ**, will be the GCARC point of contact for this event
  - Goal : Reach 50 registered clubs. Members are encouraged to participate to increase club score.

Upcoming Contests : Reported by Tony Starr K3TS

- SP DX Contest (Polish DX) - This weekend; SSB and/or CW
- OK/OM DX Contest (Czech/Slovak) - April 11-12; SSB only
- ARRL Rookie Roundup (SSB) - Sunday, April 19; open to hams licensed within the last 3 years; experienced ops may only work rookies
- Florida QSO Party - April 25-26; recommended for its county mobile activity (no 80m operations in this party)
- Tony noted that Field Day at the end of June is the primary focus from this point forward.

Revolutionary War POTA Activations :

- **Stan Slachetka WA2JRZ** provided an update on planned Parks on the Air (POTA) activations at Revolutionary War historic sites :
  - July 18 - Prep and organizing meeting; **John Zaruba K2ZA** will present POTA basics and setup guidance

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- August 1 or August 22 (TBD) - First activation at Hancock House, Salem County
- September 26-27 - Fort Mott Historic Military Weekend; POTA activation plus ham radio history demonstrations
- Late October - Batsto Village, Wharton State Forest; third and final activation of 2026
- Additional notes:
  - A special certificate is being developed for hams who work the Club at various activations
  - Exploring the possibility of a special one-day POTA certification for the Hancock House site (not currently a POTA site)
  - Further details will appear in upcoming newsletters and future meeting announcements

Field Day 2026 - Reported by Jim Wright N2GXJ

- Date : June 26 - 27, 2026
- Theme : "Amateur Radio - A National Resource"
- Club will go off-grid with portable antennas, generators, campers, and tents in the fields around the Clubhouse
- Permission granted (thanks to Ron) to spread out again this year
- Station format : One voice, one CW, one digital per band (no duplicate modes on the same band simultaneously)
- Radio Captains needed - prior captains have first preference; new volunteers should contact Jim at jim.n2gxj@gmail.com
- Open to visitors; the public is welcome

Technical Topics & Member Projects

- ISS Slow Scan TV (SSTV) Event
- Dates : April 10-14, 2026
- The International Space Station will transmit SSTV test patterns; frequency and power details will be emailed closer to the event
- Information posted on the Skunkworks website (**skunkworks.w2mnd.org**)
- ISS Ham TV (ATV)
- The ISS ATV/HAMTV station is now transmitting test patterns
- Club is exploring using the EME dish to receive ISS ATV - would be significant overkill but may be feasible
- Key question : whether the antenna tracker can follow the ISS
- AI-written reference article posted on the Skunkworks Technical Resources page
- Volunteers interested in helping set up antennas and feed lines are encouraged to get involved

Discovery Dish Update

- The dish is currently mounted on the EME antenna post, aimed at GO-16
- Problem : Receive operations on GO-16 interfere with the indoor GO-16 receiver
- Plan : Replace the feed with either the Inmarsat feed or the hydrogen line feed once weather permits

Member Project - Chris's HF Amplifier

- **Chris Prioli AD2CS** presented a homebrew 70-watt RF amplifier built as a companion to a Hermes Lite SDR transceiver
- Upgraded from 51W to 70W output

April 2026 General Membership Meeting Minutes - Continued on page 44

- Three-fan staged cooling system using thermostatic switches at 45°C, 55°C, and 65°C
- A high-temp LED illuminates on the front panel when the 65°C threshold is reached
- During testing at sustained 65W output, temperature peaked just over 50°C; only the second fan activated
- Thermostatic switches sourced from Amazon (~$8/box of 20) and tested to ±1°C accuracy
- Chris offered to share design details with interested members

Machine Learning RF Modulation Decoder

- A member noted a project using ML to decode modulation types via an RTL-SDR
- **Jon Pearce WB2MNF** expressed interest in demonstrating this within approximately two months

Meshtastic Node - Clubhouse Tower

- The Meshtastic node for the tower is operational again after a corroded solar panel power connector was repaired and re-soldered
- Node has not yet been reinstalled on the tower

WSJT April Fools Note

- QST published a satirical article about a 150 WPM CW mode in WSJT to be released April 1st - confirmed as an April Fools' joke

Club WSPR (Whisper) Project : Jon Pearce WB2MNF introduced a new Club-wide experiment using WSPR (Weak Signal Propagation Reporter) :

- **Project Overview**
  - Goal : Recruit 24-50+ Club members to run WSPR transmitters simultaneously to crowd source propagation data
  - Operators and experimenters can collaborate - operators guide analytics needs; experimenters build the hardware
  - Technicians with 10m privileges encouraged to participate - opens up HF operating without a full HF rig
- **Hardware Options**
  - Option A - TAPR Board (preferred for group): $35 (board + BNC-to-PL259 adapter + shipping); requires a Raspberry Pi 3 or Pi 4; all-in package ~$100 includes Pi 3, power adapter, and pre-flashed SD card
  - Option B - ESP32 QST Build: ~$25; more complex; Chris leading a sub-group for this option
  - Option C - QRP transmitter with power reduced and WSJT-X/WSPR software
  - Option D - ZachTek WSPR transmitter (~$160, pre-assembled)
  - Option E - QRP Labs 5-band WSPR transmitter (ordered for the Clubhouse); will provide consistent multi-band transmissions from a fixed location
- **Important notes :**
  - Pi 5 is NOT compatible with the TAPR board
  - Pi Zero works but must be self-configured
  - Calibration is critical - overdriving will burn out the output transistor (Q1); target ~90 mW
  - Chris has replacement transistors in stock
- **Group Order :**
  - Order form distributed via Club email; deadline is Wednesday, April 15, 2026
  - SJRA members also participating - several already signed up

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- To order independently, go to : **https://tapr.org/product/wspr**

Tech Saturday Forum - May 9, 2026

- Overview of the WSPR network and setup assistance
- Antenna-building session to follow in a subsequent May Saturday
- Recommended band for members without existing antennas : 30 meters (no contesting; good DX compromise)

Analytics Portal :

- Live data dashboard at : **https://wspr.wb2mnfai.org**
- Members can add their callsign, band, and view propagation statistics
- Features include : AI-generated weekly propagation narrative, SNR vs. distance scatter plots, propagation by hour/band, gray line analysis, WWV WSPR station comparisons, and per-station drill-down maps
- WWV (Fort Collins, CO) operates 5 WSPR stations - included for benchmarking

POTA Cat Software - Presented by Len Rust W2LJR

- POTA Cat is a new application combining POTA spotting website functionality with CAT radio control
- Auto-tunes the radio to a spotted POTA frequency with a single click
- Supports logging to ADIF and uploads spots to the POTA website
- Remote control feature (via smartphone over internet) allows true remote ham operation using the user's own transceiver
- Actively developed by Casey (Philadelphia area); future integration with Logbook of the World and QRZ anticipated

Youth Activities - Angela Metzger KE2DRJ (ARRL NJ Section Youth Coordinator)

- Ongoing classes with winter students : lessons on the phonetic alphabet with interactive games
- Planning another group visit to the Clubhouse for new student members
- Cub Scout Pack 811 (Pine Hill) is seeking amateur radio programming - Angela is coordinating; volunteers to help at end-of-April camping trip are welcome (contact Angela)
- June 20 is YOTA (Youth on the Air) - plan to coordinate with the SJRA Club QSO Party if possible
- Angela encouraged members to refer grandchildren, students, or schools interested in amateur radio.

Treasurer's Report :

- Year-to-Date Income : $7,596
- Year-to-Date Expenses : $1,381
- Net Income (YTD) : $6,293
- Members with Outstanding Dues ~41 members

Note : The GCAR Foundation is funding materials for the Saturday connector installation session. Members reminded to contribute to the club kitty.

Club Resources & Communications :

- Discord Group : Active community for mesh radio, WSPR, satellite, SDR, and other technical topics - open to all members

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- Skunkworks Website : **skunkworks.w2mnd.org** - Technical resources including mesh, DMR, WSJT, WSPR, and ISS HAMTV articles
- Club Merchandise : Custom shirts, mugs, and gear available with callsigns - see **John Zaruba K2ZA**
- Clubhouse : Open every Saturday - drop in to work on projects, get help, or connect with fellow members

Old Business / New Business :

- No old or new business items were raised from the floor.

Adjournment :

- A motion to approve the minutes was made and seconded.
- The meeting was recessed for a 10-minute break before the evening's featured speaker, **Tim Duffy K3LR** (CEO of DX Engineering).
- A 50/50 raffle was conducted.

Minutes recorded from audio and transcript - April 1, 2026

FUTURE PROGRAMS :

- May 6, 2026 : "Future Proofing ARES" by **Bob Famiglio K3RF**

Meeting adjourned @ 2000 Hours.

Respectfully submitted,
John Zaruba K2ZA,
Recording Secretary

Hurric
May 3 - 9, 2026 National Hurricane Preparedness Week : https://www.noaa.gov/hurricane-prep
/hurricane
Get Moving When a Storm Threatens
Protect your home: cover windows, secure doors & loose items
Determine sheltering options and consider your pets
Ready your go-bag, meds & supplies, charge phone, fill up/charge vehicle
Help your neighbors, especially the elderly & other vulnerable people
Follow evacuation orders if given

Gloucester County Amateur Radio Club
Board of Directors Meeting Minutes
Wednesday, April 15, 2026

Meeting opened @ 1900 Hours by President Jonathan Pearce WB2MNF

Attendance :

- **President Jon Pearce WB2MNF : Present**
- **Vice President Ron Block NR2B : Present**
- **Treasurer John O'Connell K2QA : Present**
- **Recording Secretary John Zaruba Jr K2ZA : Present**
- **Corresponding Secretary Mike Resnick N2WOQ : Present**
- **Director (2024-2026) Al Arrison KB2AYU : Present**
- **Director (2024-2026) Bill Price NJ2S : Present**
- **Director (2025-2027) Jeffrey Garth WB2ZBN : Present**
- **Director (2025-2027) Frank Romeo N3PUU : Present**
- **Director (2026-2028) Chris Prioli AD2CS : Present**
- **Director (2026-2028) James Wright N2GXJ : ZOOM**
- Trustee (2023-2026) Sheldon Parker K2MEN :
- **Trustee (2024-2027) Len Rust W2LJR : Present**
- **Trustee (2025-2028) Earl Moore KC2NCH : Present**
- Trustee (2026-2029) Greg Ciraula K3GC :

New Member Applications :

- **Paul Molinari N2MVK, Mount Laurel, NJ**

Treasurer's Report :

- **Income : $10,083.89**
- **Expense : $1,702.15**
- **Net : $8,381.74**

Detailed financial statements are available for member review upon request.

Committees :

- **Clubhouse : Al Arrison KB2AYU** and **Frank Romeo N3PUU** reported on grounding project progress.
- **Programs : Frank Romeo N3PUU** reported on Club picnic preparations. **Jim Wright N2GXJ** discussed Club participation in the SJRA club contest.
- **Repeaters : John Zaruba K2ZA** discussed recent changes to Yaesu's WIRES-X software which render it no longer desirable to pursue for the 442.10 MHz repeater.
- **Education : Ron Block NR2B** will be leading an update to ***"I've got my license, now what?"*** program. **Jon Pearce WB2MNF** discussed recent Woodruff STEM club successes. **Chris Prioli AD2CS** reported on the status of license classes.
- **Technical : Jon Pearce WB2MNF** reported on DATV microwave receiving project.
- **Membership : Jon Pearce WB2MNF** shared data analysis on membership (non)/renewals. Data indicates most non-renewals occur in the 2-3 year cohort.

April 2026 Board of Directors Meeting Minutes - Continued on page 48

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- **Foxhunt Report : Al Arrison KB2AYU** and **Jim Wright N2GXJ** discussed the upcoming fox hunt on Sunday, April 19, 2026.

Old Business :
Previous month's BoD minutes approved by voice vote of Club officers present.

Treasurer's report approved by voice vote of Club officers present.

New Business :

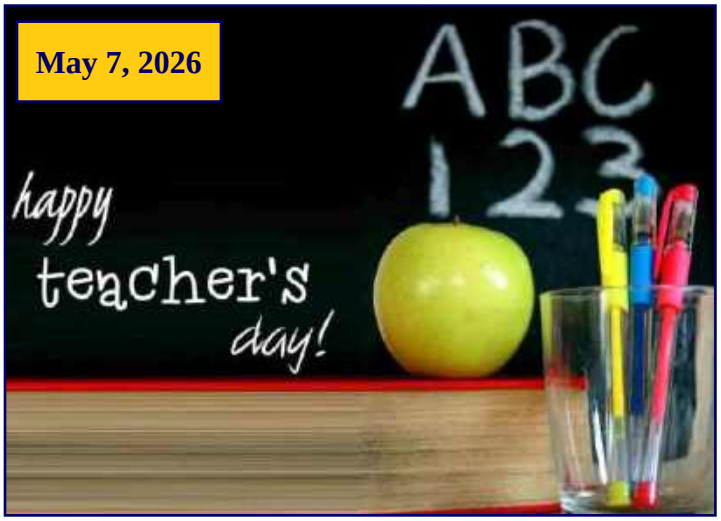
- **Jeff Garth WB2ZBN** led discussion of potential chair donation to replace the existing straight back chairs. **Bill Price NJ2S** will go to the warehouse to measure them.
- Club Nets :
  - ♦ 40 Meter Net : 7.165 MHz (+/- 10 kHz) @ 1930 Hours
  - ♦ 2 Meter Nets :
    - ◊ March 2026
      - ⇒ Tuesday : Average 9.4 check ins
      - ⇒ Thursday : Average 6.5 check ins

Meeting adjourned @ 2025 Hours

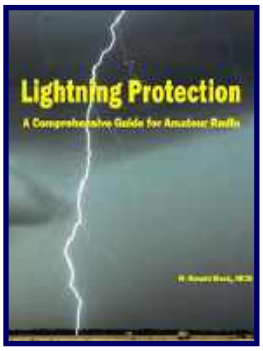
Respectfully Submitted,
John Zaruba Jr K2ZA
Recording Secretary

May 6, 2026

May 7, 2026



Lightning Protection :
A Comprehensive Guide for Amateur Radio
Author : W. Ronald Block, NR2B
Contact : ron@wrblock.com
Website : www.wrblock.com



Join ARRL In Celebrating America's 250th - On The Air!

In 2026, ARRL is commemorating America's 250th birthday with a year-long on-the-air celebration : The America 250 Worked All States (WAS) Award. Running from January 1 through December 31, this special operating event challenges amateurs of all license classes to contact all 50 US states and confirm those QSOs via **ARRL's Logbook of The World (LoTW - https://lotw.arrl.org/lotwuser/default).** Modeled after the classic WAS Award, America 250 WAS encourages activity across nearly every band - from LF through microwaves - and on CW, phone, and digital, culminating in a commemorative, frame-worthy WAS certificate.

Participants can pursue America 250 WAS in many ways, with endorsements recognizing achievements by band, by mode, Triple Play (all three modes), by satellite, by contacting ARRL Affiliated Club Stations in all 50 states, and by contacting W1AW/portable in all 50 states. Throughout 2026, the iconic W1AW call sign will be "loaned" to stations nationwide, activating each state twice during the year. All confirmations are handled through LoTW, making it easy to track progress and apply for awards and endorsements.

Operations begin 0000z on Wednesday, and end on 2359z Tuesday (7 days total for each activation).

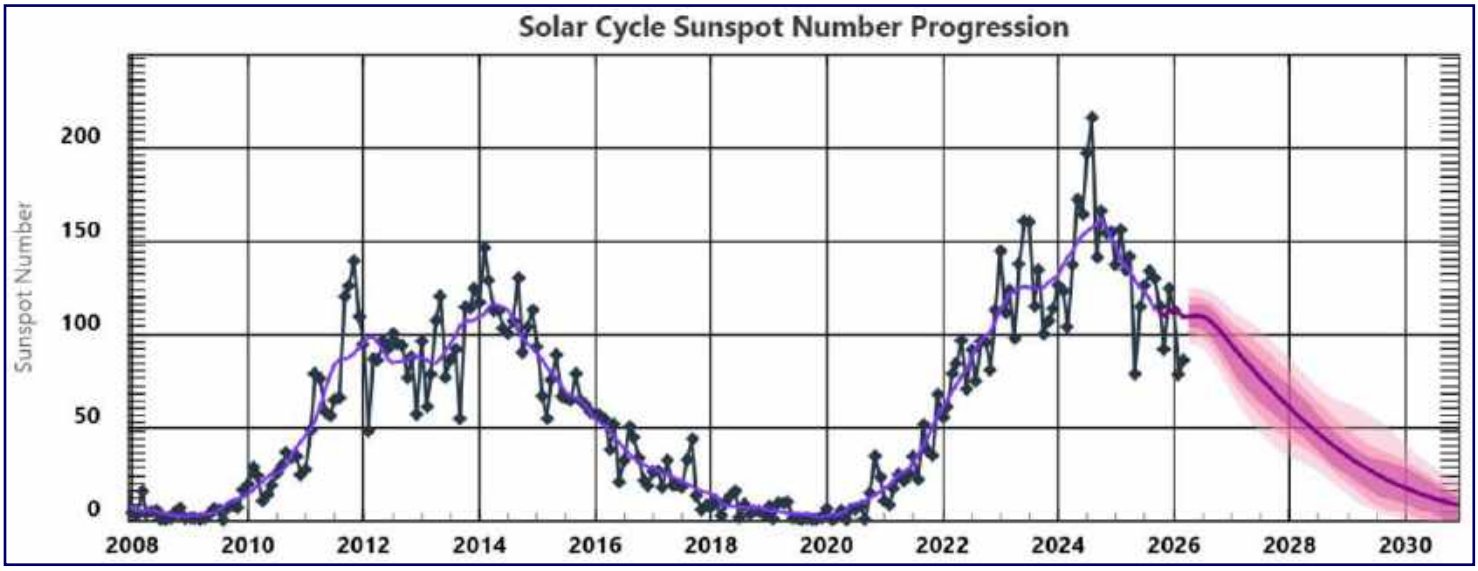
See the complete schedule at the QR Code or the following URL : https://tinyurl.com/America250Schedule

Spotless Days

By Jim Wright N2GXJ

Given how good things have been for DX on HF these past few years, it is with sadness that I saw the dreaded count of "spotless days" tick back up last month for this year. We've been more than 3 years without a spotless day on the sun, so this is a change. As a recent news article at **spaceweather.com** has reported in an April 20 article titled ***"The Sun Is Flatlining Again"***, the sun's X-ray output has reached low levels as the sunspot number plummets. Alas, those who track and predict such things could say they saw it coming, but it doesn't cushion the news any : We are likely now beyond the peak of the current solar cycle, and on our way back down again.

Ref : **https://www.swpc.noaa.gov/products/solar-cycle-progression**



Electronic Tool Tip #17 - Safety Wire Pliers Set

By Chris Prioli AD2CS - chris@ad2cs.com - www.ad2cs.com

If you are anything like I am, you will sometimes find yourself having to form bifilar (and even occasionally trifilar) wire twists in order to properly wind bifilar or trifilar transformers or splitters. Then the question is, how can one make these twists evenly, accurately, and consistently? The answer, as I discovered, is to use a specialized type of pliers called safety wire pliers.

Figure 1 : Safety Wire Pliers Set

So, what exactly are safety wire pliers? These are tools that are specifically manufactured to make it possible for technicians, especially aviation A&P technicians, to install properly twisted safety wires, to threaded fasteners. Safety wires are almost universally used in aviation applications to prevent the accidental or inadvertent loosening of threaded fasteners. They are also used in certain critical heavy-duty highway truck applications, such as inside transmissions and drive axles, and sometimes inside engines. When properly installed, a length of so-called mechanic's wire is inserted through drilled holes in the threaded fasteners, and then around or through some other fixed object, and firmly twisted around itself to secure it in place and prevent rotation of the fastener.

So…how does that apply to electronics? ***Simple!*** A properly twisted bifilar wire pair is twisted at a rate of eight to ten twists per inch. It is quite a challenge to do so freehand and yet maintain the proper twist rate and symmetry. The safety wire pliers, which are designed for use in twisting two or more wires around each other, make this task almost foolproof. The task involves gripping the ends of the wires that are to be twisted in the jaws of the pliers and then to lock the pliers closed by squeezing the handles together and sliding the catch bail towards the end of the handle. Then, with the opposite end of the wires firmly secured in a vise, simply pull on the knurled knob on the end of the center stem of the pliers. This will cause the pliers to spin, which will in turn impart the requisite twist to the wires. Release the knob to reset the twist action, and repeat as necessary until the desired twist pattern is achieved. The result is a perfectly uniform twist pattern for the length of the wires. A squeeze of the handles will release the lock and free the twisted wire from the jaws of the pliers.

The set of safety wire pliers illustrated at **Figure 1** is a two-piece set including a six-inch pliers and a nine-inch pliers. For those who do not want to purchase the set, each pair of pliers is available individually.

This set is available online from Amazon, at a price of $22.99 (USD) plus shipping if you are not an Amazon Prime member. Of course, the government has to get its share, so tax will also be applied. Point your browser to **https://www.amazon.com/dp/B09KX91QW8** if you want to investigate this item for yourself.

Word To The Wise

X-QSO - In a Cabrillo (https://wwrof.org/cabrillo) format log file, the nearly universal format used for contest log submissions, a line starting with X-QSO denotes a contact that was made, but is not being claimed for credit in the contest. It is being submitted so it can count for the OTHER station. Reasons for this type of contact can include contacts made during sanctioned "off" periods, or contacts made for test purposes.

Regional Skywarn Websites For On-Line And In-Person Training Classes

Philadelphia/Mt Holly Skywarn : www.weather.gov/phi/skywarn
State College, PA Skywarn : www.weather.gov/ctp/skywarn
Pittsburgh, PA Skywarn : www.weather.gov/pbz/skywarn

NWS State College Skywarn Basic Spotter Training (Virtual)
Monday, May 18, 2026 - 1800 to 2000 Hours
Registration Required : https://register.gotowebinar.com/register/3606913165180388950

Indianapolis 500 Special Event Card : May 18-24, 2026

By Jim Wright N2GXJ

If you've any ties to the Midwest, you know of the spectacle they call the Indianapolis 500. With parking and camping now sold out for this year's race on May 24 (which is incredible, given the enormity of the 2.5 mile track and infield), there's another way we can celebrate this year's 110th running of the race. And that is by making a radio contact with the 2026 Indianapolis 500 Amateur Radio Special Event Station (W9IMS), which will be on-air from May 18-24, 2026, celebrating this year's race.

In my opinion, W9IMS consistently has some of the best often fold-out glossy QSL cards to collect and show off each year. See the example from 2025 shown below. But to get one, you've got to get in their log first! It's not that hard. I've had good luck around dinner time on 40 meters voice (~7.245 MHz, look for W9IMS on spotting network) using just a dipole in my attic (with the ends folded back to fit). I am definitely going to try again this year! Won't you give them a try? Details at : **https://www.qrz.com/db/W9IMS**

To Be Added To The DX HONOR ROLL or Update Your Number, Please Contact Ernest Kraus KD2EAV meanddelcanotc@verizon.net

Name/Callsign	DXCC
Bill Grim W0MHK	352
Dave Strout W2YC	349
Edward De Fonzo W2DE	339
Darrell Neron AB2E	337
Bob Pantazes W2ARP	300
Gary Castellini N2IEC	288
Sheldon Parker K2MEN	285
Jim Wright N2GXJ	282
Vinnie Sallustio N4NYY	280
John Hill W2HUV	271
Tony Starr K3TS	250
Kenny Denson WB2P	248
Dennis Sandole K2SE	231
Bart Kleczynski AC2PT	180
Eric Morris N2BRJ	175
Art Strong KA0WS	169
Howard Marder WA2IBZ	161
Ben Johnson NE2R	153
Phil Nunzio WA3RGY	151
Steve Farney W2SEF	149
Rich Subers W2RHS	133
Marc Federici WM2Y	117
Chuck Capasso WB2PGE	104
Harry Strahlendorf W3DNQ	103
Jim Clark KA2OSV	87
Updated As Of 04/20/2026	

Hmm...It's Saturday and you want to know if someone is at the Clubhouse? Why not call and find out!

W2MMD Clubhouse : 856-244-6914

Full Flower Moon - Friday, May 1, 2026 @ 1324 Hours

May's Flower Moon name should be no surprise; flowers spring forth across North America in abundance this month! "Flower Moon" has been attributed to Algonquin peoples, as confirmed by Christina Ruddy of The Algonquin Way Cultural Centre in Pikwakanagan, Ontario. May's Moon was also referred to as the "Month of Flowers" by Jonathan Carver in his 1798 publication, Travels Through the Interior Parts of North America: 1766, 1767, 1768 (pp. 250-252), as a likely Dakota name. Carver stayed with the Naudowessie (Dakota) over a period of time; his expedition covered the Great Lakes region, including Wisconsin and Minnesota areas. Henry David Thoreau sparked the Native American Moon names as well, referencing the Flower Moon and Carver when he wrote about Native Americans.

Blue Moon - Sunday, May 31, 2026 @ 0446 Hours

In May, a second full Moon, a Blue Moon, will make an appearance. The term Blue Moon is most commonly used when we have two full Moons in a single month.

Old Farmer's Almanac - www.almanac.com

New : Club QSO Party Saturday, June 20, 2026

By Jim Wright N2GXJ

As you heard about at the April 1st General Membership Meeting, there's a new world-wide club QSO party being organized for this year that we've been invited to participate in. This event is happening the weekend prior to Field Day. It's a way to gain some technical knowledge and operating practice in a low-stress way ahead of the big weekend. As we are all members of a club, the exchange is simply your callsign and the letter "C" (for Club member). It's that simple.

A fun thing about this event is that we, as GCARC under the callsign W2MMD, have registered as a club for the competition. That means that every club member that participates and submits their score helps add to our club total. But it also means that, as a registered club, if we operate the club station under the club callsign W2MMD, contacts with W2MMD will count 100 points per contact each - which could make W2MMD popular. The exchange from the club station is simply W2MMD and the number 67, with 67 being the age in years of our Club. It's that simple. Anyone want to help us operate the Club station for a couple hours during this event?

Which brings us to one more fun thing to mention - they allow repeater contacts, which is very unusual for an event. And for the overall club score, they factor club member participation into the scoring, based on number of club members that participated in at least one QSO. Getting any ideas? You can see where I'm going with this. The more of our membership that participate with at least one contact, the better our overall club scoring will be.

So, imagine, what would happen if we run a net on our 2 meter repeater (RF and/or EchoLink), for everyone to call in to drive up our club participation and point total with 100 point contacts to W2MMD acting as net control?

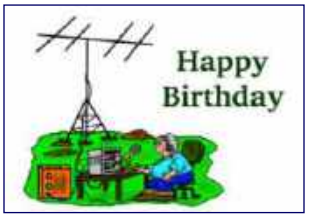
Anyone want to try this? Crazy ideas welcome!

Details at : https://sites.google.com/view/wwwclubqsopartyorg/home

May Birthdays

Congratulations To Our Members Who Are Celebrating A Birthday This Month

Joshua Boylan KE2FSC
Daniel Caguiat KV2N
Chuck Capasso WB2PGE
Holden Correia-Fisher KD2JPV
Michael Covaleski N2MMC
Walter Coward WX2E
Adam Duncan W3DUN
Peter B Elias KE2EGL
Melissa Guenther KE2BWZ
Lee Halele WA2LH
Carmen Inverso WA2TRS
Ben Johnson Sr NE2R
Brian Jones KD2BXD
Bill Jones KD2FHM
Joe Lee Jr N2BNJ
Bill McCourt WF1L
Dennis McManus W3IMA
Darrell Neron AB2E (President 2005, 2006, 2007)
Rosemarie Newman KE2DPP
Terry Rossi N2LQH
Rusty Rust K2LJR
Jacob Scholz KC2QYT
Stan Slachetka WA2JRZ
Tony Starr K3TS (President 2021, 2022)



In Memoriam : May Birthdays

David Allin N2TVR
Walton Ashton Jr WB2OYQ
Burris Bauer
Stanislav Cerkez N2AJJ
Frank Di Santo Jr N2RHT
Bertha Farr Eggert WA4BMC
William Farr III AI2I
Hyman Friend KB2GH
Ernest Gigliobianco KB2AB
Richard Hackett AA2RK
Edward Leibfarth WA4AEX (Charter Member)
James Montagno N2WHY
Roy Peterson Jr K2GHZ
(Club Co-Founder, Charter Member)
James Scannell Jr KB2GTT
Joseph Schneider KB2SVJ
Herbert Telling N2IZM
Charles Weiler KA2OSW
Edward Wilson WA2SXC

CrossTalk Submissions

This is your Club Magazine. Make use of it.

If you have stories or photos of your hobby that you would like to share with the Club, please do so! We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue. Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* Club.

All submissions, queries, comments, and editorials should be addressed to :
Jeff Garth WB2ZBN at djgrath1 <*at*> gmail <*dot*> com

Submission deadline for the June 2026 issue : Wednesday, May 20, 2026

Club Website www.w2mmd.org
Club E-Mail Reflector : GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net

Announced DX Operations : April 2026

www.ng3k.com/Misc/adxo.html

From The Shack of Bill Feidt NG3K : www.ng3k.com

2026 Apr23	2026 May01	**Lesotho**	**7P8WR**	LoTW	TDDX 20260326	By IZ?EVI IZ?EWJ IZ6DSQ; HF; SSB FT8
2026 Apr25	2026 May08	**Gambia**	**C5**	LoTW	OPDX 20260207	By F4AGG F5RAV as C5C (SSB CW) and C5D (RTTY PSK FT8); HF; also C5B fm Bijol Is; QSL C5C via F5RAV direct; QSL C5B and C5D via LoTW only
2026 Apr25	2026 Apr30	**Mongolia**	**JT0LR**	R9LR	TDDX 20260330	By R9LR R8LCM fm rare grid squares; HF; SSB CW + QO-100
2026 Apr26	2026 May04	**Ogasawara**	**JD1BMH** NEW	JD1BMH Buro	425DXN 20260510	By JG7PSJ fm Chichijima I (IOTA AS-031); 40-10m; CW SSB RTTY; QSL via JG7PSJ direct
May						
2026 May04	2026 May09	**South Cook Is**	**E51TLM** NEW	K7TLM (B/d)	TDDX 20260410	By K7TLM KD7YZE fm Rarotonga I (IOTA OC-013); 28.060m 28.385 MHz; CW SSB; 5w; end-fed wire; QSL direct w/ SASE or SAE w/ 2GS
2026 May05	2026 Jul20	**French Polynesia**	**FO**	LoTW	TDDX 20260330	By F6BCW as FO/F6BCW fm Tikehau,Tuamotu; 80-6m; CW SSB; QSL via F6EXV or Club Log OQRS
2026 May08	2026 May09	**Jersey**	**MJ**	LoTW	TDDX 20260403	By KO7T as MJ/KO7T fm IOTA EU-013; 17-10m; CW SSB FT8 RTTY; QSL via Club Log OQRS
2026 May13	2026 May21	**St Kitts & Nevis**	**V49B**	LoTW	OPDX 20250315	By EI8CN fm Basseterre, St Kitts I; HF; FT8 FT4 SSB, some CW; QSL via Club Log OQRS or EI8KN direct; holiday style operation
2026 May14	2026 May22	**Tonga**	**A31AA**	LoTW	TDDX 20250325	By JH3QFL fm Nuku'alofa; HF; 500w, and 100w on 6m; FT8 on 80-6m; QSL via JH3QFL direct
2026 May20	2026 Jun19	**Namibia**	**V5**	LoTW	TDDX 20260327	By N7XOB as V5/N7XOB; 7.165 and 14.265 MHz; SSB
2026 May24	2026 Jun01	**St Kitts & Nevis**	**V4**	LoTW	OPDX 20250904	By WW6W as V4/WW6W fm St Kitts I; QRV for CQWW WPX CW Contest; QSL via WW6W direct
2026 May25	2026 Jun03	**Chatham Is**	**ZL7IO** NEW	LoTW	ZL3IO 20260409	By ZL3IO; 160-10m; CW SSB + digital; QRV for CQ WPX CW; QSL via DK7AO
2026 May26	2026 Jun02	**Martinique**	**TO3E**	LoTW	AB2E 20260110	By AB2E; @FM5BH; QRV for CQ WPX CW Contest
2026 May27	2026 Jun08	**Bonaire**	**PJ4CB**	WA7RAR Direct	OPDX 20260319	By WA7RAR fm various Bonaire locations, some POTA; 20-10m; SSB CW; 1/4 wave telescoping vertical; no SASE or green stamp required for QSL
2026 May28	2026 Jun01	**Maldives**	**8Q7QR**	JJ1DQR	TDDX 20260330	By JJ1DQR; HF; holiday style operation; QRV for CQ WPX CW

Also for your convenience, there is a direct link to NG3K on our website. Click on the NG3K DX Page.

May 2026 Contest Calendar - WA7BNM Contest Calendar : www.contestcalendar.com

May 2026	
NCCC FT4 Sprint	0100Z-0130Z, May 1
Weekly RTTY Test	0145Z-0215Z, May 1
NCCC Sprint	0230Z-0300Z, May 1
AGCW QRP/QRP Party	1300Z-1900Z, May 1
K1USN Slow Speed Test	2000Z-2100Z, May 1
RCC Cup	0300Z-0859Z, May 2
SBMS 2.3 GHz and Up Contest and Club Challenge	0600 local, May 2 to 2359 local, May 3
Microwave Spring Sprint	0800-1400 local, May 2
ARI International DX Contest	1200Z, May 2 to 1159Z, May 3
F9AA Cup, PSK	1200Z, May 2 to 1200Z, May 3
7th Call Area QSO Party	1300Z, May 2 to 0700Z, May 3
Indiana QSO Party	1500Z, May 2 to 0300Z, May 3
Delaware QSO Party	1700Z, May 2 to 2359Z, May 3
New England QSO Party	2000Z, May 2 to 0500Z, May 3 and 1300Z-2400Z, May 3
WAB 7 MHz Phone	1000Z-1400Z, May 3
K1USN Slow Speed Test	0000Z-0100Z, May 4
ICWC Medium Speed Test	1300Z-1400Z, May 4
OK1WC Memorial (MWC)	1630Z-1729Z, May 4
ICWC Medium Speed Test	1900Z-2000Z, May 4
MIE 33 Contest	2300Z, May 4 to 0300Z, May 5
ARS Spartan Sprint	0000Z-0200Z, May 5
Worldwide Sideband Activity Contest	0100Z-0159Z, May 5
ICWC Medium Speed Test	0300Z-0400Z, May 5
Phone Weekly Test	0230Z-0300Z, May 6
A1Club AWT	1145Z-1300Z, May 6
CWops Test (CWT)	1300Z-1400Z, May 6
VHF-UHF FT8 Activity Contest	1700Z-2100Z, May 6
Mini-Test 40	1700Z-1759Z, May 6
Mini-Test 80	1800Z-1859Z, May 6
CWops Test (CWT)	1900Z-2000Z, May 6
VHF-UHF FT8 Activity Contest-NA	0000Z-0500Z, May 7
Walk for the Bacon QRP Contest	0000Z-0100Z, May 7 and 0200Z-0300Z, May 8
CWops Test (CWT)	0300Z-0400Z, May 7
CWops Test (CWT)	0700Z-0800Z, May 7
NRAU 10m Activity Contest	1700Z-1800Z, May 7 (CW) and 1800Z-1900Z, May 7 (SSB) and 1900Z-2000Z, May 7 (FM) and 2000Z-2100Z, May 7 (Dig)
SKCC Sprint Europe	2000Z-2200Z, May 7
NCCC FT4 Sprint	0100Z-0130Z, May 8
Weekly RTTY Test	0145Z-0215Z, May 8
NCCC Sprint	0230Z-0300Z, May 8
K1USN Slow Speed Test	2000Z-2100Z, May 8
VOLTA WW RTTY Contest	1200Z, May 9 to 1200Z, May 10
CQ-M International DX Contest	1200Z, May 9 to 1159Z, May 10
SKCC Weekend Sprintathon	1200Z, May 9 to 2400Z, May 10
Canadian Prairies QSO Party	1700Z, May 9 to 0300Z, May 10
50 MHz Spring Sprint	2300Z, May 9 to 0300Z, May 10
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, May 11
K1USN Slow Speed Test	0000Z-0100Z, May 11
ICWC Medium Speed Test	1300Z-1400Z, May 11
OK1WC Memorial (MWC)	1630Z-1729Z, May 11
RSGB 80m Club Championship, SSB	1900Z-2030Z, May 11
ICWC Medium Speed Test	1900Z-2000Z, May 11
Worldwide Sideband Activity Contest	0100Z-0159Z, May 12
ICWC Medium Speed Test	0300Z-0400Z, May 12
DARC FT4 Contest	1900Z-2029Z, May 12
Phone Weekly Test	0230Z-0300Z, May 13
A1Club AWT	1145Z-1300Z, May 13
CWops Test (CWT)	1300Z-1400Z, May 13
VHF-UHF FT8 Activity Contest	1700Z-2100Z, May 13
Mini-Test 40	1700Z-1759Z, May 13
Mini-Test 80	1800Z-1859Z, May 13
CWops Test (CWT)	1900Z-2000Z, May 13
VHF-UHF FT8 Activity Contest-NA	0000Z-0500Z, May 14
CWops Test (CWT)	0300Z-0400Z, May 14

May 2026 Contest Calendar - Continued on page 57

May 2026 Contest Calendar - Continued from page 56

CWops Test (CWT)	0700Z-0800Z, May 14
QRP Minimal Art Session	1400Z-2200Z, May 14
NCCC FT4 Sprint	0100Z-0130Z, May 15
Weekly RTTY Test	0145Z-0215Z, May 15
NCCC Sprint	0230Z-0300Z, May 15
K1USN Slow Speed Test	2000Z-2100Z, May 15
UN DX Contest	0600Z-2100Z, May 16
NZART Sangster Shield Contest	0800Z-1100Z, May 16
His Maj. King of Spain Contest, CW	1200Z, May 16 to 1200Z, May 17
EU PSK DX Contest	1200Z, May 16 to 1200Z, May 17
Arkansas QSO Party	1400Z, May 16 to 0200Z, May 17
Feld Hell Sprint	2000Z-2359Z, May 16
Baltic Contest	2100Z, May 16 to 0200Z, May 17
Run for the Bacon QRP Contest	2300Z, May 17 to 0100Z, May 18
K1USN Slow Speed Test	0000Z-0100Z, May 18
ICWC Medium Speed Test	1300Z-1400Z, May 18
OK1WC Memorial (MWC)	1630Z-1729Z, May 18
RSGB FT4 Contest	1900Z-2100Z, May 18
ICWC Medium Speed Test	1900Z-2000Z, May 18
Worldwide Sideband Activity Contest	0100Z-0159Z, May 19
ICWC Medium Speed Test	0300Z-0400Z, May 19
Phone Weekly Test	0230Z-0300Z, May 20
A1Club AWT	1145Z-1300Z, May 20
CWops Test (CWT)	1300Z-1400Z, May 20
VHF-UHF FT8 Activity Contest	1700Z-2100Z, May 20
Mini-Test 40	1700Z-1759Z, May 20
Mini-Test 80	1800Z-1859Z, May 20
RSGB 80m Club Championship, Data	1900Z-2030Z, May 20
CWops Test (CWT)	1900Z-2000Z, May 20
VHF-UHF FT8 Activity Contest-NA	0000Z-0500Z, May 21
Walk for the Bacon QRP Contest	0000Z-0100Z, May 21 and 0200Z-0300Z, May 22
NAQCC CW Sprint	0030Z-0230Z, May 21
CWops Test (CWT)	0300Z-0400Z, May 21
CWops Test (CWT)	0700Z-0800Z, May 21
NTC QSO Party	1900Z-2000Z, May 21
NCCC FT4 Sprint	0100Z-0130Z, May 22
Weekly RTTY Test	0145Z-0215Z, May 22
NCCC Sprint	0230Z-0300Z, May 22
K1USN Slow Speed Test	2000Z-2100Z, May 22
Real Time Contest	1600Z-2000Z, May 24
QRP ARCI Hootowl Sprint	0000Z-0100Z, May 25
K1USN Slow Speed Test	0000Z-0100Z, May 25
QCX Challenge	1300Z-1400Z, May 25
ICWC Medium Speed Test	1300Z-1400Z, May 25
OK1WC Memorial (MWC)	1630Z-1729Z, May 25
QCX Challenge	1900Z-2000Z, May 25
ICWC Medium Speed Test	1900Z-2000Z, May 25
Worldwide Sideband Activity Contest	0100Z-0159Z, May 26
QCX Challenge	0300Z-0400Z, May 26
ICWC Medium Speed Test	0300Z-0400Z, May 26
SKCC Sprint	0000Z-0200Z, May 27
Phone Weekly Test	0230Z-0300Z, May 27
A1Club AWT	1145Z-1300Z, May 27
CWops Test (CWT)	1300Z-1400Z, May 27
Mini-Test 40	1700Z-1759Z, May 27
Mini-Test 80	1800Z-1859Z, May 27
CWops Test (CWT)	1900Z-2000Z, May 27
CWops Test (CWT)	0300Z-0400Z, May 28
CWops Test (CWT)	0700Z-0800Z, May 28
RSGB 80m Club Championship, CW	1900Z-2030Z, May 28
NCCC FT4 Sprint	0100Z-0130Z, May 29
Weekly RTTY Test	0145Z-0215Z, May 29
NCCC Sprint	0230Z-0300Z, May 29
K1USN Slow Speed Test	2000Z-2100Z, May 29
CQ WW WPX Contest, CW	0000Z, May 30 to 2359Z, May 31
Romanian Diaspora SSB Contest	0500Z-1700Z, May 31

WARMINSTER AMATEUR RADIO CLUB

2026 HAMFEST & ARRL EPA SECTION CONVENTION

Sunday, May 3, 2026 (rain or shine)

Gate opens at 7am (6am for vendors)

LOCATION:

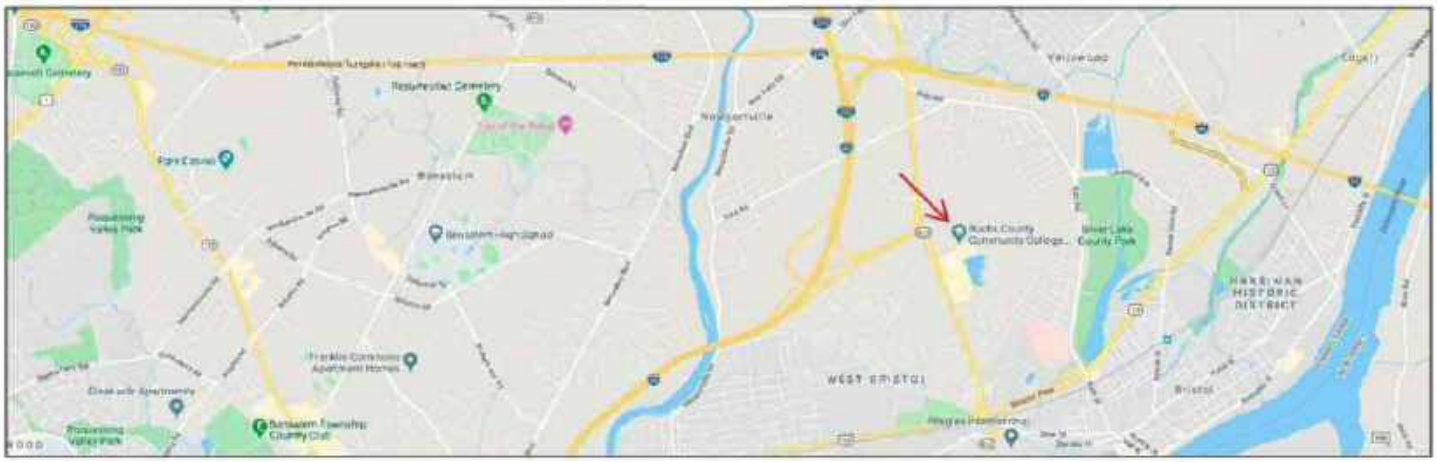
Bucks County Community College - Lower Bucks Campus
1304 Veteran's Hwy (Route 413)
Bristol, PA 19007

GPS Coordinates:
Latitude: 40.112755 | Longitude: -74.876504

Talk-in 147.09+ (131.8) / 443.95+ (131.8)

- New & Used Ham Radio & PC Equipment
- Equipment check-out table
- VE Testing at 10:00 am
- DXCC card checking
- Door prizes every hour
- Food service available
- ARRL Guest Speaker
  (See K3DN website: www.k3dn.org for announcement of speakers and times)

- Gate admission: $8/person
- Unlicensed spouses & under 13 free
- Student free with valid ID
- Handicap parking available
- Tailgating: $10/car-width space (plus admission)
- Indoor tables: $20/table (plus admission)



K3DN Warminster Amateur Radio Club

For more info:
Web: www.k3dn.org
Contact: hamfest@k3dn.org

ARRL SANCTIONED HAMFEST

Old Barney Amateur Radio Club
HAM FEST AT THE SHORE
SATURDAY MAY 9, 2026
SURF CITY VOLUNTEER FIRE COMPANY
713 LONG BEACH BLVD SURF CITY, NJ 08008
8:00AM-1:00PM - VENDOR SET UP 7:00AM
DOOR PRIZES!
Admission Fee: $5
NON-HAM SPOUSES AND KIDS FREE!
Indoor Vendor Table - $15 - Includes table and 1 Admission
Outside Vendor - $10 - 1 Parking Space Area, No Tables Provided
Vendor space limited - first come, first serve.
Food and Drink Available * Benefits Surf City Vol. Fire Company
WALLY'S
15% OFF
With Event Ticket
TALK IN FREQUENCY
146.835
127.3 PL
QUESTIONS? Contact Ira, N2WAA
hamfest@obarc.org - 201.741.5330
ARRL
Amateur Radio

The W2MMD Repeaters

2 Meter Repeater
Output : 147.180 MHz
Input : 147.780 MHz
Offset : +600 kHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)
EchoLink : W2MMD-R

70 cm Repeater
Output : 442.100 MHz
Input : 447.100 MHz
Offset : +5 MHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)

The above repeaters are both
located in Pitman, NJ
GPS : 39.728481°, -75.131088°

1.25 Meter Repeater
Output : 224.660 MHz
Input : 223.060 MHz
Offset : -1.6 MHz - PL : 131.8 Hz
Location : Sewell, NJ
GPS : 39.746738°, -75.077094°

SKYWARN™ Net
Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES Net
Sunday @ 2000 : 147.180 MHz Repeater

GCARC TechNet ZOOM Forum
Available Every Monday @ 1930 Hours
Join ZOOM Meeting Link :
https://bit.ly/3K8bWwj

Tuesday AfterNoon 2M Net @ 1200 Hours

Monday & Thursday Night 40M Net
1930 Hours : 7.165 MHz (+/- 10 kHz)

Thursday 2M Net @ 2000 Hours

All 2 Meter Nets Are Also On EchoLink :
W2MMD-R

Meeting Calendar

General Membership Meeting
Wednesday, May 6, 2026
1900 Hours
Pfeiffer Community Center
Simulcast Live on ZOOM
Meeting ID : 982 4039 1944
Passcode : 091084
Join ZOOM Meeting Link :
https://bit.ly/4s67geS

Board of Directors Meeting
Wednesday, May 20, 2026
1900 Hours
W2MMD Clubhouse

"Ask not what your Club can do for you, Ask what you can do for your Club"
- KA2OSV

"There's More To Ham Radio Than You Can Possibly Do!"
- K3TS

*** Badges ***

Need a new or replacement badge
Contact "*The Badge Man*"

Chris Prioli AD2CS
chris@ad2cs.com

Question Pool Answers : E5D01:A; E5D02:B; E5D03:C; E5D04:B; E5D05:C; E5D06:D; E5D07:B; E5D08:D; E5D09:B; E5D10:D; E5D11:B; E5D12:D